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National Institute of Sciences of India

Report of the Council for the year ending 31.3.56

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NATIONAL INSTITUTE OF SCIENCES OF INDIA

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REPORT OF THE COUNCIL FOR THE YEAR ENDING 31-3-56.

NEW DELHI
5-10-1956

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NATIONAL INSTITUTE OF SCIENCES OF INDIA

(Registered under the Societies Registration Act XXI of 1860)

ANNUAL REPORT 1955-56.

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The Council of the National Institute of Sciences of India has the pleasure in presenting the following report of the general concerns of the Institute for the year 1955-56, in accordance with the provisions of Rule 43(f) of the Rules of the National Institute.

MEMBERSHIP

The number of Fellows on the roll of the Institute at the beginning of the year was 298 Ordinary Fellows and 40 Honorary Fellows. Fifteen Ordinary and four Honorary Fellows were elected during the year. Three Ordinary Fellows (Prof. K. Ananda Rau, Sri V. V. Sohoni and Sir John Taylor) resigned and seven Ordinary Fellows and one Honorary Fellow died during the year. The total number of Fellows at the end of the year 1955-56 was 303 Ordinary Fellows (against a limit of 350) and 43 Honorary Fellows (against a limit of 50). A complete list of the Fellows will be found in Appendix I.

ELECTION OF FELLOWS

The following new Fellows were elected during the year 1955-56 :

Ordinary Fellows

1. Dr. J. N. Basu (Calcutta)
2. Dr. J. N. Bhar (Calcutta)
3. Dr. P. Bhattacharya (Izatnagar)

4. Sri V. Cadambe (Delhi)
5. Dr. R. N. Chakravarti (Calcutta)
6. Prof. K. V. Giri (Bangalore)
7. Sri B. L. Gulatee (Dehra Dun)
8. Dr. B M. Johri (Delhi)
9. Sri S. L. Malurkar (Bombay)
10. Dr. R. K. Pal (Calcutta)
11. Dr. S. P. Raychaudhuri (Calcutta)
12. Lt. Col. J. Singh (Delhi)
13. Dr. S. Swaroop (Geneva)
14. Dr. M. J. Thirumalachar (Pimpri)
15. Dr. W. B. Metre (Digboi)

Honorary Fellows

1. Prof. Peter Kapitza (Moscow)
2. Prof. Hans Adolf Krebs (Oxford)
3. Prof. A. N. Nesmeyanov (Moscow)
4. Prof. Hans Selye (Montreal, Canada).

Obituaries

The Council reports with deep regret the loss suffered by the death of the following Fellows:

Ordinary Fellows

1. Dr. W. Burridge
2. Dr. Snehamoy Datta
3. Dr. S. L. Hora
4. Prof. P. C. Mahanti
5. Prof. H. K. Mookerjee
6. Prof. M. N. Saha
7. Prof. T. Vijayaraghavan

Honorary Fellow

Prof. Albert Einstein

Obituary notices of some of the foregoing deceased Fellows are given in Appendix IV.

Meetings (including Symposia and Public Lectures)

Five General Meetings were held during the year under report. Out of these, three Ordinary General Meetings were held at Gulmarg, Mysore and New Delhi on May 27, 1955, August 5, 1955, and March 2, 1956 respectively. The Twentyfirst Annual General Meeting was held at the headquarters of the National Institute of Sciences of India, New Delhi, on October 7, 1955 and the Twenty-first Anniversary General Meeting was held at the S. N. Medical College, Agra, on January 1, 1956. At the Anniversary General Meeting the President (Dr. A. C. Ukil) delivered his annual Anniversary Address, the subject of which was "The Frontiers of Medicine".

Papers on scientific subjects were read at these meetings. These papers were later published by the Institute. A list of these papers is given in Appendix V.

Symposia

The following Symposia were held during the year under report :—

May 1955 : High Altitude Research (at Gulmarg, Kashmir).
August 1955 : Climate, Environment and Health (at Mysore).

High Altitude Research

This symposium was held under the Chairmanship of Dr. A. C. Ukil, President of the Institute on May 27, 28 & 29, 1955 at Gulmarg in collaboration with the Gulmarg Research Laboratory. A strong steering committee consisting of eminent scientists working in the field of physics, geology and physiography, Biological Sciences (e.g. physiology, agriculture, forestry, etc.) was constituted with Dr. P. S. Gill as its Convener. The steering committee approached all the workers in "High Altitude Research" in the country directly or through the institutions to which they belonged. The response from them was prompt and generous. Their personal attendance was very encouraging and the symposium on the whole was a great success. It was inaugurated by the Sadar-i Riyasit of Jammu and Kashmir State, Yuvraj Karan Singh, and the participants were given a generous hospitality by the State during their stay there.

Climate, Environment and Health

This symposium was held at Mysore on August 5 and 6, 1955 under the Presidentship of Dr. A.C. Ukil. The Convener of the Steering Committee (Dr. B. Mukerji) approached all workers and institutions engaged in research in this field through circular letters and personal communications. A large number of papers were presented and very useful discussions took place. As a result of these discussions a special committee consisting of Dr. B. Mukerji, Dr. D.S. Kothari, Mr. K.F. Antia and Lt.-Gen D.N. Chakravarti, a representative each from (i) Director General, Armed Forces' Medical Services, (ii) Central Building Research Institute, (iii) Director, All-India Institute of Hygiene and Public Health, Calcutta and (iv) Director General of Observatories, was constituted to give effect to the various conclusions and recommendations of the Symposium.

During the year under report the Council accepted the recommendations of the Standing Committee for Organization of Symposia to hold the following symposia during the year 1956 57 :—

1956	*Subject*	*Place*
May	Contact Catalysis	Calcutta
August	Radio-active Isotopes*	Bombay
October	Scientific Research in relation to the National Development Plan	Delhi

A number of meetings were held and lectures arranged in the building of the National Institute by scientific and cultural societies, namely, the Horticultural Society of India, India Section of the Electro-chemical society, Diamond Mining Industry (V.P.) Committee, Indian Science Congress Executive Committee and Santiniketan Ashramika Sangha.

*Alternatively on 'Colloids'.

Council

The Council as constituted at the Twentieth Anniversary General Meeting held on the 2nd January 1955 was as follows. This Council functioned until the new Council was elected on the 1st January 1956.

President :	Dr. A. C. Ukil (Calcutta)
Vice-Presidents :	Dr. B. Mukerji (Lucknow) Dr. K. R Ramanathan (Ahmedabad)
Treasurer :	Prof. D. S. Kothari (Delhi)
Foreign Secretary :	Prof. P. C. Mahalanobis (Delhi)
Secretaries :	Prof. R C. Majumdar (Delhi) Dr. B. P. Pal (Delhi)
Editor of Publications :	Prof. J. M. Sen (Calcutta)
Members of Council :	Prof. S. P. Agharkar (Poona) Prof. K. N. Bagchi (Calcutta) Dr. B. B. Dey (Madras) Dr. Verrier Elwin (Shillong) Prof. P. S. Gill (Aligarh) Dr. B. C. Guha (Calcutta) Dr. A. C Joshi (Chandigarh) Dr. M. S. Krishnan (Calcutta) Dr. R. S. Krishnan (Bangalore) Dr. D. R. Malhotra (Ajmer) Dr. M. A. Moghe (Pilani) Prof. H. K. Mookerjee (Calcutta) Dr. B. N. Prasad (Allahabad) Dr. Mata Prasad (Bhavnagar) Prof. N. R. Tawde (Dharwar) Prof. M. S. Thacker (Bangalore) Dr. K. Venkataraman (Bombay)

Representatives of the Government of India and Co-operating Academies :—

Government of India :	Dr. K. S. Krishnan (Delhi)
Asiatic Society :	Dr. D. M Bose (Addl. Vice-President) (Calcutta) Dr. B. S. Guha (Addl. Member) (Calcutta)
National Academy of Sciences, India :	Prof. Shri Ranjan (Addl. Vice-President) (Allahabad) Prof. S. Ghosh (Addl. Member) (Allahabad)
Indian Science Congress Association :	Prof. S. K Mitra (Addl. Vice-President) (Calcutta) Dr. U. P. Basu (Addl. Member) (Calcutta)
Ex-officio Members (Past-Presidents) :	Dr. J. C. Ghosh (1943-1944) (Calcutta) Dr. D. N. Wadia (1945-1946) (Delhi) Prof. S. N. Bose (1949-50) (Calcutta) Dr. S. L. Hora (1951-52) (Calcutta) Dr. K. S. Krishnan (1953-54) (Delhi)

The Council, which was elected at the Twenty-first Anniversary General Meeting of the National Institute at a Agra on the 1st January 1956, was as follows :—

President :	Dr. A. C. Ukil (Calcutta)
Vice-Presidents :	Dr. K. R. Ramanathan (Ahmedabad) Prof. S. P. Agharkar (Poona)
Treasurer :	Prof. D. S. Kothari (Delhi)
Foreign Secretary :	Prof. P. C. Mahalanobis (Delhi)
Secretaries :	Prof. R. C. Majumdar (Delhi) Dr. B. P. Pal (Delhi)
Editor of Publications :	Prof. J. M. Sen (Calcutta)
Members of Council :	Dr. U. P. Basu (Calcutta) Dr. S. Bhagavantam (Hyderabad) Dr. B. B. Dey (Madras) Dr. K. R. Dixit (Bombay) Prof. P. S. Gill (Aligarh) Dr. B. C. Guha (Calcutta) Dr. V. R. Khanolkar (Bombay) Dr M. S. Krishnan (Calcutta) Dr. R. S. Krishnan (Bangalore) Prof. P. Maheshwari (Delhi) Prof. S. K. Mitra (Calcutta) Dr. B. Mukerji (Lucknow) Dr. B. N. Prasad (Allahabad) Dr. Mata Prasad (Bhavnagar) Prof. B. R. Seshachar (Bangalore) Prof. M. S. Thacker (Delhi) Dr. K. Venkataraman (Bombay).

Representatives of the Government of India and Co-operating Academies :

Government of India :	Dr. Atma Ram (Calcutta)
Asiatic Society :	Dr. D. M. Bose (Addl. Vice-President) (Calcutta) Dr. G. P. Majumdar (Addl. Member) (Calcutta)
National Academy of Sciences, India :	Prof. P. L. Srivastava (Addl. Vice-President) (Allahabad) Prof. S. Ghosh (Addl. Member) (Allahabad)
Indian Science Congress Association :	Dr. M. S. Krishnan (Addl. Vice-President) (Calcutta) Dr. U. P. Basu (Addl. Member) (Calcutta)
Ex-officio Members (Past-Presidents) :	Dr. D. N. Wadia (1945-1946) (Delhi) Prof. S. N. Bose (1946-1950) (Calcutta) Dr. K. S. Krishnan (1953-1954) (Delhi)

The Council held five meetings. Some of the important resolutions of the Council are given in Appendix III. During these meetings the Council took notice

of and gave direction for conduct of the various activities of the Institute pertaining to all spheres of its work, e g., Administration, Research, Publications and Scientific Development work, etc.

The decisions of the Council have been incorporated in the report under various heads mentioned above, Particular mention, however, is made of some of the important items below :

Inauguration of the Bhatnagar Memorial Fund

As a result of the appeal of Dr. A. C. Ukil (President of the Institute) for the funds to perpetuate the memory of Dr. Shanti Swarup Bhatnagar, a sum of Rs. 5,110/- was collected. The Council decided that this sum should be utilised for a full-size portrait or a bust of late Dr. Bhatnagar to be placed in the Institute as well as for instituting a gold medal to be awarded every year to a Scientist to be invited to deliver the Memorial lecture.

Five Year Plan of the Institute

The Council of the Institute at its meeting held on 27-5-55 decided to formulate Five Year Plan for the Institute. Under this Plan Government were requested to make provision for the following items :—

1. Increasing the number of NIS Research Fellows.
2. Utilization of the services of the retired scientists.
3. Institution by NIS of Research Professorships and Readerships.
4. Library.
5. Publications
   (a) Institute's own publications ;
   (b) Other publications by learned scientific societies.
6. Strengthening the secretariat of the Institute.
7. Travelling.
8. Contingencies.
9. Extensions to the building.
10. Popularization of Science in the country.
11. Compilation of a History of Sciences in India.

The Council is pleased to report that the Government of India have accepted to provide funds for all the foregoing items except for items Nos. 2, 3, 10 and 11.

Utilization of the services of the retired scientists

As regards item No. 2 the Government have accepted the recommendations of the Council but have decided that the scheme should be executed by the Council of Scientific and Industrial Research. As proposed by the Council a sum of Rs. 8,000/- would be paid to each retired scientist for carrying on the unfinished work. A special committee consisting of the following has been appointed to make recommendations in the matter :

Hon'ble Vice-President, CSIR	Chairman
Director, Scientific and Industrial Research	Member
Dr. J. C. Ghosh	"
Dr. K. S. Krishnan	"

Dr. B. P. Pal	Member
President, NISI.	,,
President, Institution of Engineers	,,
President, Indian Science Congress Association	,,

History of Sciences

It is noted with regret that the Government of India have not been able to accept the recommendations of the Institute with regard to the 'Preparation of History of Sciences in India'. This is an important work in which the Council of the Institute has shown considerable interest for five years. To pursue the matter further the Institute has appointed a special sub-committee consisting of the President, Prof. S. P. Agharkar, Dr. D. M. Bose, Prof. D. S. Kothari, Dr. K. S. Krishnan, Prof. G P. Majumdar, Dr. S. K. Mitra, Dr. B. Mukerji, Prof. P. R. Ray and Prof. M S. Thacker, and in due course it is expected that the recommendations of this committee will be forwarded to Government by the Council for re-consideration of the whole matter.

Local Centres of NISI

The Council at its meeting held on 2-3-56 decidcd that the Fellows of the Institute may meet at Regional centres where they can gather in sufficient number to discuss papers, common problems in the interest of the NISI and topics for the development of Science in the country. To encourage such meetings the Council has provided a sum of Rs. 500/- towards expenses incurred for programme printing and for providing light refreshments, etc for the organization of such meetings. Two successful meetings in this connection were held at the Calcutta centre and printed proceedings thereof were circulated.

Biological Board

At its meeting held on 4-5-56 the Council reviewed its work during the last 6 years of its existence. It was noted with satisfaction that the Biological Board has considered and recommended so far 27 schemes received from various research organizations all over the country. Of them 19 were sent to Government in the Ministry of Natural Rescurces and Scientific Research ; 4 to the Council of Scientific and Industrial Research ; 2 to the Indian Council of Agricultural Research and 2 to the University Grants Commission. 15 of the schemes, which were sent to Government, were subsequently also forwarded by them to the CSIR. It will be seen that out of the 19 schemes sent to CSIR direct or by Government, 5 have been accepted, 2 rejected, 4 recommended and forwarded by them to the I.C.A.R. and the remaining 8 are still under their consideration. Of the 2 forwarded to the I.C.A.R. none has yet been accepted while the University Grants Commission has rejected one and the other they will consider under the Second Five Year Plan. (Appendix IX).

The Council also considered future functions of the Biological Board vis-a-vis the newly constituted Biological Research Committee of the C.S.I.R. The Government (in the Ministry of N. R. & S. R.) and the Director of the C.S.I R. have both been addressed (officially and dem-officially) about this matter but so far no replies have been received from any of them. Pending the receipt of replies from Government and C.S.I.R. the Council has decided that the Biological Board will not forward any more schemes to them.

Establishment of a Board for Physical Sciences

The Council decided that a Board for Physical Sciences be organized on the

lines of the Biological Board which has done so much useful work during the past few years. The membership of this Board will be open to all members of the Council and Sectional Committees of the Institute interested in sciences other than biological. Its main functions would be as below :

(1) To prepare and consider schemes for the development of physical sciences in India in all respects, pure and applied.

(2) To advise the Council on all matters on physical sciences referred to the Institute by the Government of India, State Governments and other organizations.

Revision of Rules of the Institute

The recommendations of the Council to revise Rules 5, 36, 37, 38, 45(h) and 49 in the light of experience gained in the past many years of their working, were accepted by the general body of the Fellows of the Institute at the meeting held on 7th October, 1955.

Committees

The various standing committees of the Institute are

(1) Sectional Committees (Eight in number)
(2) Finance Committee
(3) Research Fellowships Committee
(4) Grants Committee
(5) Standing Committee for Organization of Symposia
(6) Building Committee
(7) Library Committee
(8) Biological Board
(9) Publication Advisory Board
(10) Academic Assistance Committee
(11) History of Sciences Committee

The names of the members of the committees are given in Appendix II.

Representations on Scientific Bodies

The following appointments of delegates to represent the Institute on various scientific bodies were made by the Council :—

(1) Indian Association for the Cultivation of Science.

Dr. K. S Krishnan and Prof. D. S. Kothari represented the National Institute on the Council of the Indian Association for the Cultivation of Science for the year 1955-56. The Council at its meeting held on the 31st December, 1955, appointed Dr. K. S Krishnan and Prof. P.S . Gill as its representatives for the year 1956-57.

(2) Indian Standards Institution.

Prof. P. S. Gill was nominated to represent the National Institute on the General Council of the Indian Standards Institution. Prof. R.P. Mitra continued to represent the Institute on the Chemical Division of the Indian

Standards Institution. (Dr. B Mukerji continued as alternative representative on the Chemical Division).

(3) Indian Standards Institution-Chemical and Textile Standards Convention.

Prof. G. R. Paranjpe was nominated to represent the NISI at the Chemical and Textile Standards Convention of the I.S.I.

(4) Indian National Commission for Co-operation with UNESCO.

Prof. S. P. Agharkar, Prof. D. S. Kothari and Prof. J. M. Sen continued as representatives on the Indian National Commission for Co-operation with UNESCO.

(5) Indian Institute of Science, Bangalore.

The President of the NISI (Dr. A. C. Ukil) and Dr. H. J. Bhabha continued to represent the NISI on the Council and Court respectively of the Indian Institute of Science.

(6) Indian Statistical Institute, Calcutta.

Dr. V. G. Fanse was nominated to represent the NISI on the Governing Body of the Research and Training School of the Indian Statistical Institute.

(7) Advisory Board for preparation of National Atlas of India.

Prof. J. M. Sen was nominated as representative of the NISI on the Advisory Board for preparation of National Atlas of India.

(8) National Academy of Sciences, India—Silver Jubilee Session.

Dr B. Mukerji and Dr. G S. Thapar were nominated as delegates to the Silver Jubilee session of the National Academy of Sciences, India, which was held at Lucknow on December 26-29, 1955.

(9) Council of Scientific and Industrial Research—Expert Committee to consider the present state of development of Biological Sciences in India.

The President (Dr. A.C. Ukil) was nominated to represent the NISI on the Expert Committee of the CSIR to consider the present state of Development of Biological Sciences in India.

(10) Mining, Geological and Metallurgical Institute of India—Golden Jubilee Session

Dr. M. S. Krishnan was nominated to represent the NISI at the Golden Jubilee session of the M.G.M.I.

Grants-in-aid

(a) *Publications* :

During the year under report, Council made the following grants to the Scientific societies for their publication :

		Rs.
Indian Science News Association	...	1,000
National Academy of Sciences India	...	1,000
Current Science, Association	...	1,000
Science Club	...	250
Northern India Science Association	...	500

		Rs.
Indian Science Congress Association	...	500
Indian Society of Agricultural Statistics	...	500
Indian Mathematical Society	...	1,000
Indian Physical Society	...	1,000
Institution of Chemists (India)	...	600
Society of Biological Chemists, India	...	300
Indian Chemical Society	...	1,000
Indian Society of Soil Science	...	250
Indian Institute of Metals	...	250
The Geographical Society of India	...	250
Palæontological Society of India	...	500
Indian Geographical Society	...	250
Mining, Geological and Metallurgical Institute of India	...	500
Geological, Mining and Metallurgical Society of India	...	500
Indian Phytopathological Society	...	500
International Society of Plant Morphologists	...	500
Indian Botanical Society	...	1,000
Indian Society of Genetics and Plant Breeding	...	500
Entomological Society of India	...	500
Zoological Society of India	...	1,000
Indian Dairy Science Association	...	500
Indian Psychological Association	...	250
Indian Institute for Medical Research	...	500
Indian Pharmaceutical Association	...	500
Indian Veterinary Association	...	250
Calcutta Mathematical Society	...	500

(b) *Recommendations for grants from Central Revenues* :

The following learned societies were recommended for grants-in-aid from Central Revenues for amounts noted against each :

1955-56 :

		Rs.
Association of Scientific Workers of India	...	6,000
Zoological Society of India (for symposium T.A. and publication)		2,000
Society of Biological Chemists India (for publication including Silver Jubilee volume)	...	3,000
Entomological Society of India (for publication and improvement of the journal)	...	3,000
Mining, Geological or Metallurgical Institute of India (for publication of the Golden Jubilee Volume)	...	5,000

1956-57 :

		Rs.
Indian Science News Assaciation	...	10,000
National Academy of Sciences, India	...	20,000
Current Science Association	...	5,000
Science Club	...	1,000
Calcutta Mathematical Society	...	2,000
Indian Mathematical Society	...	4,000
Indian Physical Society	...	15,000
Institution of Chemists (India)	...	3,000
Society of Biological Chemists, India	...	1,000

		Rs.
Indian Chemical Society	...	5,000
Indian Society of Soil Science	...	2.000
Indian Institute of Metals	...	2,500
Geological, Mining and Metallurgical Society of India	...	4,000
Mining, Geological and Metallurgical Institute of India	...	9,000
Indian Botanical Society	...	2,000
Indian Society of Genetics and Plant Breeding	...	4,500
Bombay Natural History Society	...	8,000
Entomological Society of India	...	3,000
Zoological Society of India	...	3,000
Indian Dairy Science Association	...	2,000
Indian Veterinary Association	...	2,000
Soil Conservation Society of India	...	1,000

Research Fellowships

(a) The following Research Fellows were appointed during the year 1955-56 :

NIS Senior Research Fellowship

1. Dr. Aneesur Rehman for work on (i) Wave functions of H_2 molecules, and (ii) Energy levels of Li_2 molecule, at the Osmania University, Hyderabad-Deccan.

2. Dr. M A. Rau for work on Experimental investigation of some problems in Angiosperm Embryology, at the Central College, Bangalore.

*3. Dr. C. V. Ramakrishnan for work on Biosynthesis of citric acid in citrus fruits, at the Central Food Technological Research Institute, Mysore.

†4. Dr. S. N. Chaudhuri for work on Investigation on the mechanism of Disease-symptom in tuberculous infection in experimental animals : Study on the kinetics of 'Energy-Metabolism' in tuberculous tissue, at the Indian Institute for Medical Research, Calcutta.

NIS Junior Research Fellowship

*1. Dr. D. Prem Swarup for work on Microwave absorption spectroscopy, at the Andhra University, Waltair, under the guidance of Prof. K. Rangadhama Rao.

2. Sri O P. Vig for work on Synthetic investigation in terpenoid, at the Punjab University, Hoshiarpur, under the guidance of Prof. S. M. Mukherji.

3. Sri R. Narasinha for work on a Study of the effect of Main Stream Turbulence on boundary layer flow, at the Indian Institute of Science, Bangalore, under the guidance of Dr. S. Dhawan.

4. Sri J. S. R. Krishna Rao for work on Economic Geology, at the Andhra University, Waltair, under the guidance of Prof. C. Mahadevan.

5. Dr. T. M. Das for work on Plant Physiology, at the Calcutta University, under the guidance of Dr. S. M. Sircar.

*6. Dr. H. Shantaram for work on Sublethal treatment of insects with insecticides, at the Central College, Bangalore, under the guidance of Prof. B. R. Seshachar.

7. Sri J Chatterjee for work on Tissue Culture, at the Indian Institute for Medical Research, Calcutta, under the guidance of Dr. J. C. Ray.

8. Dr. H. R. Chipalkatti for work on Sorption at organic interphase vap. phase and liquid phase on cellulosic fibres (cotton and viscose), at the Sri Ram Institute of Industrial Research Delhi under the Dr. V. B. Chipalkatti.

9. Dr. D. Srinivasan to work on X-rays on optical methods as applied to biophysics, at the National Physical Laboratory New Delhi under the guidance of Dr. K. S. Krishnan.

ICI (India) Research Fellowship

1. Dr. P. T. Narasimhan for work on Infra-red Spectroscopy, at the Indian Institute of Science, Bangalore, under the guidance of Prof. R, S Krishnan.

2. Dr. (Miss) J. Sarma for work on Ecology of urban populations, at the Calcutta University under the guidance of Prof. K. P. Chattopadhyay.

3. Dr. K. Lakshminarayanan for work on Biochemical studies on Vascular wilts, at the Madras University under the guidance of Prof. T.S. Sadasivan.

4, Sri S. P. Puri for work on Discharge spread mechanism in Halogen counters, at the Muslim University, Aligarh, under the guidance of Prof. P. S. Gill.

5. Dr. M. N. Das for work on Theories and applications of Non-Aqueous Acid base titration, at the Indian Association for the Cultivation of Science, Calcutta, under the guidance of Dr. S. R. Palit.

*6. Dr. J. Jacob for work on Cytological and Biochemical aspects of speciation in Melaniidae and some estuarine fish, at the Annamalai University under the guidance of Prof. R. V. Seshaiya

(b) The folllowing Research Fellowships were extended for a period of one year each with effect from the dates as shown alongside :

NIS Junior Research Fellowship

1.	Dr. (Miss) Ravindar Kaur	...	1-12-55
2.	Dr. V. V. Agashe	...	1-10-55
3.	Miss K. Padmavally	...	1- 6-55
4	Sri K. C Jayaram	...	17-11-55

*Did not join the Fellowship.

†Joined the Fellowship but later resigned.

(c) The following Research Fellowships were terminated. The reasons for termination also are given alongside :

1. Dr. G. S. Deshmukh—9th July 1955—on his appointment as Lecturer in the Banaras Hindu University.
2. Dr. C. Venkata Rao—30th June 1955—on completion of 2 years' tenure of Research Fellowship.
3. Dr. T. C. Ray—21st February 1955—on his appointment as Lecturer in the Calcutta University.
4. Mr. K. N. Srinivasa Rao—28th June 1955—on his appointment as Lecturer in the Yuvaraja College, Mysore.
5. Sri K. Sreeramamurti—30th June 1955—on completion of 2 years' tenure of Fellowship.
6. Sri K. M. Safeeulla—9th July 1955—on completion of 2 years tenure of Fellowship.
7. Dr. A. Bhati—22nd December 1955—on receipt of an ICI Research Fellowship at the Glasgow University.
8. Sri A. Gopalakrishna—31st July 1955—on receipt of a Research Fellowship under the Rockefeller Institute at New York.
9. Sri T. S. Satyanarayana Rao—31st July 1955—on completion of 2 years' tenure of Fellowship.
10. Dr. R. P. Kane—1st January 1956—on appointment as lecturer under the Atomic Energy Commission at the Physical Research Laboratory, Ahmedabad.

It will be seen that most of the Research Fellows of the Institute on completion of their tenure have found suitable posts on which they can continue to carry on the work of the development of science in the country.

The special grant of the I C.I. (India) Ltd. for award of Fellowships expired in the year 1955. As decided by the Council I.C.I. authorities have been approached to extend the grant.

The Library

The work of organization and expansion of the Library is being continued. About 245 books were added to the Library during 1955-56. Their list is given in the Appendix VII.

Some additional furniture for seating the visitors and shelves for books and journals have been purchased for the Library.

The total number of journals, periodicals and reports, now received in the Library on exchange or subscription, now stands at about 350. Their list is given in the Appendix VIII.

The following institutions were added to the exchange mailing list, for supply of the publications of the Institute :

1. The Faculty of Mathematics and Science, University of Oslo, Blindern, Norway.
2. Science Museum Library, South Kensington, London, S.W.7.

3. The Library, Polskie Towarzystwo Chemiczne, Warszawa, Kosxykowa-75, Poland.

4. Unesco Science Co-operation Office for South Asia, New Delhi.

Presentations

The following books were presented to the Library :

1. Proceedings of the International Conference on Semi-Conductors. Amsterdam, 29th June—3rd July 1954. Netherland Physical Society.

2. Progress of Fishery Development in India by Central Inland Fisheries Research Station, Cuttack—1956.

3. Report of the Prohibition Enquiry Committee 1954-55. The Planning Commission, New Delhi.

4. Council of Scientific and Industrial Research—A Review. New Delhi. CSIR 1954.

5. Proceedings of the Symposium on Scientific Problems of Land Use in Arid Regions Cairo Dec. 3—Dec. 9, 1953, held under the joint auspices of the Egyptian Desert Institute and UNESCO. 1953. Heliopolis. Egypt.

6. Royal Society of New Zealand Bulletin No. 6—Studies of Mosquitoes and Fresh Water Ecology in the South Pacific, by Marshall Land, Wellington, N.Z., The Society. 1956.

7. Estimation of the Cost of Production of Crops—Report on the Pilot Scheme for the Estimation of the Cost of Production of Cotton and Rotation Crops in Akola District, Madhya Pradesh, 1952-53, by V. G. Panse, Statistical Adviser, ICAR, New Delhi. 1954. Indian Central Cotton Committee—publication

8. Scottish Marine Biological Association. Collective Reprints. 1955.

9. Report of the Calendar Reform Committee. New Delhi. CSIR. 1955.

10. Royal Society of New Zealand. Bulletin No. 5—A handbook of Zealand Mosses, by G.O.K. Sainsbury.

11. A Symposium on Artificial Rain held in February 1953 under the joint auspices of the Atmospheric Research Committee CSIR and the Indian Meteorological Department. New Delhi. CSIR. 1953.

12 Andhra University Memoirs in Oceanography, Vol.(1) (Andhra Univ. Srs. No 49), New Delhi. CSIR. 1954.

Publications

Proceedings

The Council decided that the 'Proceedings' of the Institute should be published in future in two parts—Part 'A' dealing with Physical Sciences and Part 'B' dealing with Biological Sciences. This decision became effective from Vol. XXI. 1955. Accordingly, four issues of Part 'A', consisting of 289 pages with 14 plates, i.e. No. 1 (January), No. 2 (March), No. 3 (May and No. 4 (July), and three issues of Part 'B', consisting of 148 pages, with 15 plates, that is No. 1 (February), No. 2

(April) and No. 3 (June) were published during the year. In addition, Title Page and Index to Vol. XX, 1954, were published and distributed with the 'Proceedings'.

In 1955, 109 papers, as against 97 papers in 1954, were received for publication in the 'Proceedings' of which 21 papers were published in the year itself (12 papers in Part A and 9 in Part B); 5 were returned to the authors for revision; 5 were with the referees and 21 were returned as unsuitable; some of the other papers accepted for publication will be included in the remaining Numbers of Vol. 21 and what is left over will be published in Vol. 22 of 1956.

Ordinarily a paper is published within 6 to 8 months after receipt but time lag is inevitable as it has to pass through various stages before it is published. It is regretted that the complete 'Proceedings' of the year, both Parts 'A' and 'B', could not be published during the year itself because of the dislocation of work in the press caused by the continued illness, death, etc., of the workmen who were engaged in this specialized work of printing the 'Proceedings' and that also refers to the time lag which was inevitable in the circumstances; the authors were, however, supplied with reprints as soon as the articles were printed before waiting for the issue of a complete part of the 'Proceedings'.

I.C.S.U. Abstracting Services

Print-order proofs of all published articles in the 'Proceedings' were regularly sent to the International Council of Scientific Union Abstracting Board, Paris, for abstracting purposes. To avoid this time lag in the publication of the abstracts, the proofs are now being sent by Air Mail as requested by the Secretary of I.C.S U. It is to be recorded that the technical and scientific value of our papers is being appreciated by scholars all over the world by this medium of Abstracting services.

Transactions

No issue of the 'Transactions' was published in 1955, but materials for an issue of the 'Transactions' (Tables of Gaussian Partitions by M. S. Chima and H. Gupta) are in the press since October.

Bulletins

The following Bulletins containing the proceedings of the various Symposia, held by the Institute, were published during the year under review :

Bulletin No. 4—Indigenous Drugs and Insecticides (January 1955).
" " 5—Mineral Raw Materials (March 1955).
" " 6—Scientific Principles and their Application to Tropical Building Design and Construction. September, 1955).
" " 7—Organic Evolution (October, 1955).

The proceedings of the Symposium on "Trace Elements in the Nutrition of Plants and Animals" were ready as Bulletin No. 8 and print ordered in December 1955 and the volume is expected to be issued early in 1956.

The proceedings of the Symposium on 'High Altitude Research' held in May 1956 for publishing in Bulletin No. 9 are in the press since October 1955.

Progress of Science in India

No substantial progress can be reported in the publication of this important series than what was stated in the Annual Report for last year.

It has been decided by the Council to issue each of the two parts 'Physics' and 'Chemistry', published in November 1053 and January 1955 respectively, with the remarks that the National Institute of Sciences does not hold itself responsible for the exactness and completeness of the volume.

As regards section Zoology, Prof. K. P. Chattopadhyay has been revising the materials of the sub-section Anthropology, and it is hoped to issue the Zoology part in 1956. The Section Geology is complete and it is expected to be published in 1956.

Dr. G P. Majumdar took up the review of Botany section and he expects to submit the entire materials of the section in 1956. The materials of sections Physiology and Mathematics are being edited by the local Editors. The review of Engineering section is incomplete as regards one sub-section without which the materials cannot be sent to the press.

To make this series of publications uniform and authentic as far as possible the Council has decided that the typescript prepared by the sectional Editors be seen by the two Secretaries before they are sent to the press for printing. After the publication of the series on Progress of Science in India (1938-50) the entire policy concerning such publications will have to be revised under the schemes of grants to be obtained by the National Institute of Sciences of India under the Second Five Year Plan of the Government of India.

Finance and Institute Funds

During the year 1956-56 the Government of India sanctioned a recurring grant in-aid of Rs. 2,55,000/- which was Rs. 5,000/- more than the grant received last year. The recurring grant-in-aid has been utilized towards expenditure on salaries, research Fellowship, travelling expenses, library, publications of the Institute (Proceedings), rent of land and house tax, etc. Besides this the Government of India gave a non-recurring grant of Rs. 9,000/- for Symposium on High Altitude Research. The Calcutta University and Osmania University as in previous years donated Rs. 500/- and Rs. 300/- respectively.

1. *Funding Account* :

This fund comprises donations received from public bodies, individuals, admission fees, compounding fees of the Fellows of the Institute. The amounts received are invested separately and the interest accruing from these investments is utilized for general expenses of the Institute.

This account stands as under :—

Balance as on 31-3-55	...	Rs.	57,269	0	6
Receipts during the year	...		2,044	0	0
			59,313	0	6

(Rs. 59,313 0 6 include donations Rs. 36,400 0 6, admission fees Rs. 13,056 0 0 and compounding fees Rs. 9,857 0 0)

Investments:

4% loan 1960-70 F.V.	Rs.	16,000	0	0				
3% „ 1946 „		26,000	0	0	...	Rs.	44,189	3 10
State Bank of India Saving Bank					...		2,869	9 8
„ Current account (since transferred to Saving account)					...		1,952	3 0
„ Fixed Deposit					...		10,302	0 0
							59,313	0 6

2. *Chandrakala Hora Memorial Medal Endowment* :

Dr. S. L. Hora and Mrs. V. Hora endowed a sum of Rs. 3,000/- in 1945 in memory of their daughter for award of a medal quinquennially to the person who has made conspicuously important contribution to the development of fisheries in India during the five years preceding the year of award.

The present position of the Fund is as below :

Balance as on 31-3-55	...	Rs.	3,609 11 0
Interest during the year	...		96 1 0
			3,705 12 0

Investments :

3% conversion loan 1949	...	Rs.	3,000 0 0
State Bank of India Saving Bank	...		705 12 0
			3,705 12 0

3. *General Fund* :

This Fund represents excess of income over expenditure against the general receipts and payments of the Institute. The publication cost of the Bulletins of the Institute is charged against this fund.

The present position of this fund is as below :

Balance as on 31-3-1955						Rs.	83,722	6 5
Add transfer from Income and Expenditure Account	Rs.	15,225	3	3				
Add transfer from Govt. grant (Housing symposium)		6,905	2	3				
Add Transfer from Unesco contribution for Housing symposium		2,850	0	0			24,980	5 6
							108,702	11 11
Less publication of Symposia Bulletins No. 4. 5, 6 & 7							22,706	7 3
							85,996	4 8
Less publication grant Societies							750	0 0
							85,246	4 8

4. *Building Fund:*

The Government of India sanctioned a total grant of Rs. 2,90,000/- for buildings and equipment. The balance left over against this grant at the close of the year 1955 was Rs. 2,097-2-0. During the current year a sum of Rs. 2,908-15-0 was spent for additions and alterations in the electric installations thus meeting the extra sum of Rs. 811-13-0 from the funds of the Institute.

5. *I. C. I. (India) Research Fellowship Fund:*

This fund represents savings from the contingent grants of Research Fellowships. Its present position is as below:

Balance as on 31-3-1955	...	Rs.	4,447	11	9
Less payments made during the year: Special grant Sri Y. Ramchandra Rao	Rs.	2,000	0	0			
Payment to Sri C.M.S. Dass		77	6	0	2,077	6	0
					2,370	5	9
Add transfer from Income Expenditure Account					1,159	9	3
					3,529	15	0

6. *Temporary Reserve Fund:*

This fund represents the savings effected from the I.C.I. Administration grant of Rs. 13,200/- received annually for administration of I.C.I. Research Fellowship. It showed a balance of Rs. 95,805-1-9 at the close of the year 1955-56.

7. *Popularization of Science Fund:*

This fund was opened for popularization of Science in India. The balance to this fund at the close of the year stood at Rs. 3,792-15-0.

8. *Symposium Fund:*

This fund was created by transfer of a sum of Rs. 4,000/- from the General Fund to meet the expenditure on various symposis organized by the Institute. The present position of the fund is as below:

Balance as on 31-3-55	...	Rs.	400	10	3
Less Expenditure on Symposium on Climate, Environment and Health	...		362	12	0
Balance	...		37	14	3

15. *Employees Provident Fund:*

The total amount in this fund at the close of the year stood at Rs. 25,166-10-0. Of this 50% represents deductions from the salaries of the staff and the balance the contribution by the Institute and interest accrued thereon.

Investments :

Fixed Deposit maturing on 12-7-56	...	Rs.	10,000	0	0
,, ,, ,, 15-7-56	...		10,302	0	0
State Bank of India Saving Account	...		4,864	10	0
			25,166	10	0

16. *Dr. S. S. Bhatnagar Memorial Fund* :

The total amount to the credit of this fund stood at Rs. 5,110-4-0 at the close of the year 1955-56. This contribution has been received from individuals, societies and the Fellows of the Institute.

APPENDIX I

LIST OF FELLOWS

ORDINARY FELLOWS

[F—Foundation Fellows]

Year of election	Serial No.		Service on Council
1936	1.	†ABRAHAM, W E.V., Lt.-Col., A.R.C.S., M.Inst. P.T. Managing Director, Burmah Oil Co., Ltd., Britannic House, Finsbury Circus, London, E.C. 2.	
F	2.	AGHARKAR, S.P., M.A., Ph D., F.L.S., ~~Head of the Dept. of Botany~~ Director, Maharashtra Association for the Cultivation of Science, Law College, Poona 4.	Sec. 1935-1944; V P. 1945, 1956-Ad. V.P. 1946, 1953; Mem. 1947-1948, 1950-1952, 1954-1955.
1944	3.	AHMAD, BASHIR, M.Sc., Ph.D., Director, West Regional Laboratories, Pakistan Council of Scientific and Industrial Research, 57-A, Ferozepur Road, Lahore.	Mem. 1946, Trea. July 1946-1947.
1938	4.	AIYAR, R. GOPALA, M.A., L.T., M.Sc., 102 Loyds Road, Gopalapuram, Cathedral P.O., Madras 6.	Ad. Mem. 1939-1940.
1950	5.	†ANTIA, D.P., D.Sc., c/o National Carbon Co. (India), Ltd., Pollock House, 18/A, Brabourne Road (post box No. 2170), Calcutta 1.	
1953	6.	†ANTIA, K. F., M.Sc. (Lond.), M.I.E., M.I. struct. E. "Rockside", Walkeshwar Road, Malabar Hill, Bombay 6.	
1951	7.	ASUNDI, R.K., B.A., M.Sc., Ph.D. (Lond.), Professor of Spectroscopy, Banaras Hindu University, Banaras.	
1938	8.	AUDEN, J B., M.A., Sc.D. (Cantab), F.A.S., 39 Cromwell Road, London, S.W. 7, England.	
1950	9.	AULUCK, F.C., Ph.D., D.Sc., Professor of Physics, Delhi University, Delhi.	
F	10.	AWATI, P.R., B.A. (Cantab), D.I.C., I.E.S. (Retd.), 47/5 Prabhat Road, Poona 4.	Mem. 1944-1945.
F	11.	BAGCHEE, K., D.Sc., D.I.C., Director of Botanical Research, State of Jammu & Kashmir, Srinagar, Kashmir.	Mem. 1943-1945.
1940	12.	BAGCHI, K.N., B.Sc., M.B., D.T.M., F.R.I.C., Gulistan, 5 Ballygunge place, Calcutta 19.	Mem. 1942, 1947-1949, 1953-1955; Ad.Mem. 1946. Trea. 1943-1945. Ad. V.P. 1951-1952.
1955	13.	BAMBAH, R.P., M.A., Ph.D. (Cantab), Reader in Mathematics, Panjab University, Hoshiarpur.	

Year of election	Serial No.		Service on Council
1944	48.	Bose, P.K., D.Sc., 99/5 Ballygunge Place, Calcutta 19.	
1942	49.	Bose, R. C., M.A., Professor, Institute of Mathematical Statistics, University of N. Carolina, Chapel Hill, N.C., U.S.A.	
F	50.	Bose, S. N., M.Sc., Khaira Professor of Physics, Calcutta University, 92 Upper Circular Road, Calcutta 9.	Ad. V. P. 1943 ; V.P. 1947-1948; Pres. 1949-1950.*
1935	51.	Bose, S. R., M.A., D.Sc., F.R.S.E., Professor of Botany, R. G. Kar Medical College, 1 Belgachia Road, Calcutta.	Mem. 1948-1950.
1953	52.	†Büchi, E. C., Ph.D., Superintending Anthropologist, Department of Anthropology, Government of India, Indian Museum, Calcutta 13.	
1956	53.	Cadambe, V., M.Sc , M.S. (Cal. Tech.), A.F.I.Ae.S. (Lond.), A.F I.Ae.S. (U.S.A.), M.I.E., M.Ae.S.I., M I I.M., M.I. Struct. E. (Lond.), Director of Research and Development (General), Ministry of Defence, (CGDP), Dte. of Technical Development, DHQ, P.O., New Delhi.	
1949	54.	Chakrabarty, S. K., D.Sc., Head of the Department of Mathematics, Bengal Engineering College, Botanic Gardens P.O., Howrah.	
1949	55.	Chakravarti, D., D.Sc., Registrar, Calcutta University ; 28-3, Sahanagar Road, Calcutta 26.	
1955	56.	Chakravarti, D. N., Lt.-Gen , M.B.B.S., D.T.M.H., D.B. (Lond.), Secretary, Department of Health and Director of Health Services, Government of West Bengal, Writers' Buildings, Calcutta 1.	
1956	57.	†Chakravarti, R.N., D.Sc. (Cal.), F.R.I.C., Professor of Chemistry, Calcutta School of Tropical Medicine, Chittaranjan Avenue, Calcutta 12.	
1954	58.	Chandrasekharan, K., Ph.D., Professor of Mathematics, Tata Institute of Fundamental Research, Apollo Pier Road, Bombay.	
1948	59.	Chatterjee, S. C., D.Sc., Professor and Head of the Department of Geology, Science College, Patna University, Patna 5.	
1955	60.	Chatterjee, S. D., D.Sc. (Cal.) Sen. Mem. I.R.E. (U S.A.), Reader in Physics, University College of Science, 92 Upper Circular Road, Calcutta 9.	
1951	61.	Chattoapadhyaya, K. P., M.Sc. (Cantab), Professor and Head of the Department of Anthropology, University Colloge of Science ; 2 Palm Place, Ballygunge, Calcutta 10.	
1950	62.	Chaudhuri, R. N., M.B., M.R.C.P. (Edin.), T.D.D. (Wales), F.S M.F., Director, School of Tropical Medicine, Chittaranjan Avenue, Calcutta 12.	

Year of election	Serial No.		Service on Council
1935	63.	CHOPRA, B. N., D.Sc., F.L.S , Fisheries Development Adviser, Government of India, Ministry of Agriculture, New Delhi.	
F	64.	CHOPRA, R. N., M. D., Sc.D., F.A.S., F.R.C.P., Brevet-Col., I.M.S. (Retired), Director, Drug Research Laboratory, Koti Bagh, Srinagar.	V. P. 1937-1938; Pres.1939-1940;* Ad. V.P. 1948.
1938	65.	CHOWDHURY, J. K., M Sc., D.Phil. (Berlin), P 286, Darga Road, (Suite No. 5), Calcutta 17.	
1940	66.	CHOWDHURY, K. AHMAD, B.A., B Sc., M.S., D.Sc., Wood Technologist, Forest Research Institute, New Forest, Dehra Dun.	
F	67.	CHOWLA, S., M.A., Ph.D., Visiting Professor of Mathematics, University of Kansas, Lawrence, Kansas, U.S.A.	
1946	68.	COATES, J., A.R.S.M., F.G.S., Eyton House, Leominister, Herefordshire, England.	
1938	69.	†CROOKSHANK, H., C.I.E., B.A., B.A.I., D.Sc., Geological Survey of Pakistan, Quetta.	
1943	70.	DAS, A.K., M.Sc., D.Sc., F.R.A.S., Deputy Director-General of Observatories in India, Astrophysical Observatory, Kodaikanal, S. India.	
1949	71.	DAS, B.K., D.Sc. (Lond.), c/o Raghe Ali's House, 151 Morredpally, Secunderabad, Deccan.	
1951	72.	DAS GUPTA, C. R., M.B., D.T.M. (Cal.) 1/25 Prince Golam Mohammad Road. Kalighat, Calcutta 26.	
1948	73.	DASTUR, J. F., M.Sc., D.I.C., Scarsdale, Panday Road, Bombay.	
F	74.	DASTUR, R. H., M.Sc., 52 Mall, Mhow (M.B).	
1938	75.	DATTA, S., D.Sc., F.R.S.E., M.R.C.V.S., D.T.V.M., Major, Director of Veterinary Services and Animal Husbandry, West Bengal, 37 Belgachia Road, Calcutta 37.	
1942	76.	DESAI, R.D., D.Sc., (Lond.), D.I C., F.R.I.C., L.D. Arts College and M. G. Sciences Instisute, Navarangpura, Ahmedabad 9.	
1952	77.	DESSAU, G., U. N. Technical Expert, via P.O. 33/19, Rome, Italy.	
F	78.	DEY, B.B , D.Sc., F.R.I.C., I.E.S., Director, Central Electrochemical Research Institute, Alagappa College P.O., Karaikudi, S. Rly.	Mem. 1947-1949, 1951-1953, 1955*
F	79.	†DHAR, N. R., D Sc., (Lond. & Paris). F.R.I.C., F.N.A. Sc., F.M.F.A.A., I.E.S. (Retd.) Director, Sheila Dhar Institute of Soil Science, University of Allahabad, 2 D Beli Road, Allahabad.	Ad. V. P. 1951; Ad. Mem. 1950.

Year of election	Serial No.		Service on Council
1941	80.	DIKSHIT, B. B., M.B.B.S., (Bombay), Ph.D. (Edin.), M.R.C P. (Edin.), D P.H. (Calcutta), Director, All-India Institute of Medical Sciences (Ministry of Health), Safdarjang, New Delhi 3.	
1954	81.	DIXIT, K. R., Ph.D , Principal, Gujarat College, Ahmedabad.	Mem. 1956-
1935	82.	†DUTT, S. B., D.Sc., D.I.C., F.R.I.C. 2/9 Bungalow Road, Roop Nagar, Delhi 6.	Ad. Mem. 1938.
1948	83.	DUTTA, A. K., D.Sc., Mayurbhanj Professor of Physics, Utkal University, Ravenshaw College, Cuttack 3.	
1948	84.	DUTTA ROY, R. K., Dr. Ing., Chemist, Geological Survey of India, 27 Chowringhee Road, Calcutta 13.	
1943	85.	ELWIN, VERRIER, M.A., D.Sc. (Oxon.), F.A.S., Tribal Consultant, NEFA, Sridham, Nangthmai, Shillong.	Mem. 1946-1948, 1954-1955.
F	86.	EVANS, P., M.A., F.G.S., 21 Grimsdyke Road, Hatch End, Middx., England.	
1955	87.	FINCH, G. I., F.R.S., Director, National Chemical Laboratory, Poona 8.	
1946	88.	GANAPATHI. K., D.Sc., Superintendent Research, Hindustan Antibiotics (Private) Ltd., Pimpri (near Poona).	
1955	89.	GANJU, P. N., M.Sc., Ph.D. (Lucknow, Durham), Head of the Department of Geology, Muslim University, Aligarh.	
1935	90.	†GEE, E. R., M.A , F.G.S., Waveney, The Linkway, Sutton, Surrey, England.	
1950	91.	GHATAGE, V. M., D.Sc., D.Phil. (Gottingen), A.F.R.Ac.S. (Lond.), M.I.Ac.Sc. (U.S.A.), Chief Designer, Hindustan Aircraft Ltd., Bangalore.	
1942	92.	GHOSH, B. N., D.Sc. (Lond.), Professor of Chemistry, University College of Science, 92 Upper Circular Road, Calcutta 9.	
1955	93.	GHOSH, C. S., M.Sc. (Cal.), S.M. (M,I.T), Mem. A.I.E.E., Professor of Electrical Engineering, Indian Institute of Science, Bangalore 3.	
1936	94.	GHOSH, J., M.A., Ph.D., 9 Satyen Datta Road, Calcutta 29.	
F	95.	GHOSH, J. C., D Sc., F.A.S., Member, Planning Commission, New Delhi.	Mem. 1935-1940; F.Sec.1941,1946; Pres. 1943-1944.*
1941	96.	GHOSH, P. K., M.Sc., D I.C., D.Sc., (Lond.), Atomic Energy Department, Central Secretariat, North Block, New Delhi.	
1954	97.	GHOSH, SATYESHWAR, D.Sc., Head of the Department of Chemistry, Allahabad University, Allahabad.	Ad Mem. 1955-

Year of election	Serial No.		Service on Council
1951	98.	GHOSH, SUDDHODAN, D.Sc., Lecturer in Applied Mathematics, University College of Science, 92 Upper Circular Road, Calcutta 9.	
1945	99.	†GHOSH, SUDHAMOY, D.Sc. F.R.I.C., Emeritus Professor, Calcutta School of Tropical Medicine; 15A Justice Chunder Madhab Road, Calcutta 20.	
1955	100.	GHOSH, T. N., D.Sc. (Dacca), Research Officer, Department of Chemistry, Bengal Immunity Research Institute, 39 Lower Circular Road, Calcutta 16.	
1941	101.	GHURYE, G. S., M.A., Ph.D., Professor of Sociology, University of Bombay, Fuller Road, Bombay.	
1945	102.	†GILL, P. S,. M.S., Ph.D. (Chicago), F.A.P.S., Professor of Physics, Muslim University, Aligarh.	Mem. 1954-
1956	103.	GIRI, K. V., B.A., M.Sc., A.I.I.Sc., D.Sc., F.R.I.C., Professor of Biochemistry, Indian Institute of Science, Malleswaram, Bangalore 3.	
F	104.	GLENNIE, E. A., D. S. O,, Brigadier, Seaton House, Shrublands Road, Berkhamsted, Herts, England.	Mem. 1946.
1953	105.	GOVINDASWAMY, M. V., M.A., B.Sc., M.B.B.S., D.P.M. (Eng.), F.A.Sc., Director, All-India Institute of Mental Health and ex-officio Superintendent, Mental Hospital, Bangalore 2.	
F	106.	†GRAVELY, F. H., D.Sc., 95 Northcourt Avenue, Reading, England.	Mem. 1935-1938 1942-1943.
1951	107.	GREVAL, S.D.S., M.D., Ch.B., P.D.H., Lt. Col., I.M.S. (R), School of Tropical Medicine, Calcutta 12.	
1941	108.	GUHA, B.C., D.Sc., Professor of Applied Chemistry, University College of Science; 55/5 Manoharpukur Road, Calcutta 29.	Trea. 1946 (Jan.-July). Mem. 1943-1944, 1947-1948, 1950-1952, 1955-
F	109.	GUHA, B.S., M.A., A.M., Ph.D., F.A.S., Bihar Tribal Research Institute, Ranchi.	Ad. Mem. 1949, 1955: Trea. 1938-1942; Mem. 1943-1944.
1935	110.	GUHA, P.C., D Sc., P. 536, C.I.T. Scheme XLVII, Raja Basanta Roy Road Extension, Calcutta 29.	
1956	111.	GULATEE, B.L., M.A., (Cantab.) F.R.I.C.S., M.I.S., Director, Geodetic and Research Branch, Survey of India; 19 Municipal Road, Dehra Dun.	
1950	112.	GUPTA, HANSRAJ, Ph.D., Professor and Head of the Department of Mathematics, Punjab University, Hoshiarpur.	
1945	113.	GUPTA, J.C., M.B. (Cal.), 58 B Ritchi Road, Ballygunge, Calcutta 19.	

Year of election	Serial No.		Service on Council
1951	114.	GUPTA, S., M.Sc., Professor of Physics, Indian Institute of Technology, Kharagpur.	
1948	115.	HEILIG, ROBERT, M.D., Consulting Physician, Jaipur H. O., Rajasthan.	
F	116.	HUSAIN, M. AFZAL, M.A., Vice-Chancellor, University of the Panjab, Lahore, Pakistan.	Mem. 1935-1940; 1944-1946; Ad. V.P. 1941, 1947.
1940	117.	ISHAQ, MOHAMMED, M.A., M Sc., Ph.D., D.I.C., F.Inst.P., Pakistan Military Academy, Kakul, West Pakistan.	Mem. 1942-1943.
F	118.	IYENGAR, M.O.P., M.A., Ph.D., F.L.S., 71 Venkatarangam Pillai Street, Triplicane, Madras.	
1951	119.	IYER, P. V. KRISHNA, M.A., D.Phil. (Oxon.), Senior Scientist, Defence Science Organization, N.P.L., Hillside Road, New Delhi 12.	
1949	120.	JACOB, K., D.Sc., F.G.S., Deputy Director, Geological Survey of India, 27 Chowringhee Road, Calcutta 13.	
1954	121.	JHINGRAN, A.G., Ph.D., Suprintending Geologist, Geological Survey of India, Wala Qadar Road, Lucknow.	
1950	122.	JOB, T.J., D.Sc., F.Z.S.I., F.A.S., F.A.Z., Acting Regional Fisheries Officer for Asia and the Far East, and Acting Secretary, Indo-Pacific Fisheries Council, FAO of the United Nations, Bangkok, Thailand.	
1956	123.	JOHRI, B.M., D.Sc., Reader in Botany, University of Delhi, Delhi 8.	
1938	124.	JOSHI, A. C., D.Sc., Director of Public Instruction and Secretary to Government, Punjab, Education Dept., Chandigarh, Punjab.	Mem. 1949-1951, 1953-1955.
1945	125.	JOSHI, S. S., D.Sc. (Lond.), F.R.I.C. (Lond.), F.A.Sc. Principal, College of Science and Professor Head of the Dept. of Chemistry, Banaras Hindu University, Banaras.	
1946	126.	KADAM, B. S., Ph.D., Director of Agriculture, Rajkot, Saurashtra State.	
F	127.	KAPUR, S. N., Kapur's Industrial and Research Laboratory, 157 Karnani Mansion, Park Street, Calcutta 16.	
1944	128.	KHAN BHATTI, HAMID, M.Sc., LL.B., Ph.D., 30 Forman Christian College, Lahore, Pakistan.	
1946	129.	KHANOLKAR, V. R., M D., Director of Laboratories and Research, Tata Memorial Hospital, Hospital Avenue, Parel, Bombay 12.	Mem. 1952-1954, 1956.
1944	130.	KHASTGIR, S. R., Ph.D., D.Sc., F.R.S.E., Department of Physics, Banaras Hindu University, Banaras.	

Year of election	Serial No.		Service on Council
1951	131.	KHOSLA, A.N., B.A. (Hons.), C.E., Dr. Ing. (Hon.) I.S.E. (Retd.), Vice-Chancellor, Roorkee University, Roorkee U.P.	
1935	132.	KICHLU, P. K., D.Sc., Professor of Physics, Delhi University, Delhi.	
1954	133.	KILPADY, Sripadrao, M.Sc., F.G.S., University Professor and Head of the Department of Geology, Nagpur University, Amravati Road, Nagpur.	
1946	134.	†KOSAMBI, D. D., S.B. (Harvard), Professor of Mathematics, Tata Institute of Fundamental Research, Apollo Pier Road, Bombay 1.	
1936	135.	KOTHARI, D. S., M.Sc., Ph.D., Professor of Physics, Delhi University, 5 University Road, Delhi 8.	Mem. 1942-1944, 1952, F.Sec. 1945; Sec. 1946-1951; Trea. 1953-
1954	136.	KOTHAVALLA, Zal R., B.Sc. Ani. Hus., B.Sc. Agri. (Edin.), N.D.D. (Scot.), D.Sc., 8 Ali Askar Road, Bangalore 1.	
F	137.	KRISHNA, S., Ph.D., D.Sc., Scientific Liaison Officer for India in U.K., India House, Aldwych, London, W. C. 2.	Mem. 1948-1950. Govt. Rep. 1953.
F	138.	KRISHNAN, K. S., D.Sc., LL.D, F.R.S., Director, National Physical Laboratory, Hillside Road, New Delhi 12.	Mem. 1935-1938, 1947-1948; Mem. & Ad.VP. 1949; Ad. V.P. 1941-1943; V.P. 1950-1951; Pres. 1953-1954;* Govt. Rep. 1955.
F	139.	KRISHNAN, K. V., M.B.B.S., L.R.C.P., D.Sc., Professor of Microbiology, All-India Institute of Hygiene and Public Health, 110 Chittaranjan Avenue, Calcutta.	Ad. Mem. 1935-1939.
1935	140.	†KRISHNAN, M. S., A.R.C.S., Ph.D., D.I.C., Officer on Special Duty, Ministry of Natural Resources and Scientific Research, Government of India, New Delhi.	Ad. Mem. 1943. Mem. 1939-1941; 1954 Ad. V. P. 1956.
1950	141.	KRISHNAN, R. S., Ph D. (Cantab.), F. Inst. P., F.A.Sc., Professor and Head of the Department of Physics, Indian Institute of Science, Bangalore 3.	Mem. 1955-
1948	142.	KRISHNASWAMI, K. R., D.Sc., F.R.I.C., Professor of General Chemistry, Indian Institute of Science, Bangalore 3.	
1954	143.	KUMAR, L. S. S., M.Sc., A.R.C.A., D.I.C.A., Principal, College of Agriculture, Poona 5.	
1945	144.	KUNDU, B. C., Ph.D. (Leeds), F.L.S., Director, Jute Agricultural Research Institute, Indian Central Jute Committee, Barrackpore, West Bengal.	

Year of election	Serial No.		Service on Council
1951	145.	LAL, K. B., Ph.D., Plant Protection Adviser to the Government of India, Directorate of Plant Protection, Quarantine and Storage; 4/19 Ajmerigate Extension, New Delhi.	
1935	146.	LAL, R. B., M.B.B.S., D.P.H., D.T.M. & H., D.B., Ravi Kunj, Srinagar Estate, Mussoorie.	Mem. 1936-1941.
1936	147.	LAW, S. C., M.A., B.L., Ph.D., F.Z.S., M.B.O.U., 50 Kailas Bose Street, Calcutta.	
1940	148.	MADHAVA, K. B., M.A., A.I.A., 'Amrutha,' 130 Lloyds Road, Cathedral, P.O., Madras.	Ad. Mem. 1945-1946.
1949	149.	†MAHABALE, T. S., B.A., M.Sc., Ph.D., F.A.Sc., F N.A Sc., F.B.S., Professor and Head of the Department of Botany, University of Poona, Ganeshkhind, Poona 7.	
1945	150.	MAHADEVAN, C., M.A., D.Sc., Professor of Geology, Erskine College of Natural Sciences, Andhra University, Waltair.	Mem. 1952-1953.
F	151.	MAHAJANI, G. S., M.A., Ph.D., Vice-Chancellor, Delhi University, Delhi 8.	
F	152.	MAHALANOBIS, P. C., M.A., B.Sc., F.R.S., 204 Barrackpore Trunk Road, Calcutta 35; Hony. Statistical Adviser, Cabinet Secretariat, 8 King George's Avenue New Delhi.,	Ad. Mem. 1941-1943, 1947-1948; Mem. 1945-1946; Ad. V.P 1950-1951, F.Sec. 1952-
1935	153.	MAHESHWARI, P., D.Sc., Professor and Head of the Department of Botany, Delhi University, Delhi 8.	Mem. 1956-
1940	154.	MAJUMDAR, D. N., M.A., Ph D., Professor and Head of the Department of Anthropology, Lucknow University, Lucknow.	
1943	155.	MAJUMDAR, G. P., Ph.D., 19 Ekdalia Place, Ballygunge, Calcutta 19.	Ad. Mem. 1956-
1941	156.	MAJUMDAR, R. C., Dr. Phil. Nat., Professor of Physics, Delhi University, Delhi 8.	Mem. 1950-1951; Sec. 1952-
1946	157.	MALHOTRA, D. R., D.Sc., M.I.Chem.E., F.I.M., M.I.E., (India), Member, Railway Service Commission, Churchgate, Bombay 1.	Mem. 1954-1955.
1956	158.	MALURKAR, S. L., M.Sc. (Cantab), Director, Colaba and Alibag Observatories, Indian Meteorological Service, Colaba Observatory, Colaba, Bombay 5.	
F	159.	MEHRA, H. R., M.Sc., Ph.D., Head of the Department of Zoology, Allahabad University, Allahabad.	Ad. V.P. 1942-1943, 1945; Ad. Mem. 1944-1947, Mem. 1949-1950.
1952	160.	MEHRA, P. N., D.Sc., Head of the Department of Botany, Punjab University, Khalsa College, Amritsar.	
1956	161.	METRE, W. B., F.G.S. (Lond.), Senior Geologist., Assam Oil Co, Ltd., Digboi.	

Year of election	Serial No.		Service on Council
1955	162.	MISRA, R., M.Sc., Ph.D. (Lond.), Professor and Head of the Department of Botany, Banaras Hindu University, Banaras.	
1949	163.	MITRA, H.K., MSc. (Cal.), Ph.D. (Pittsburgh, U S.A.), Refractories Engineer, Tata Iron & Steel Co., Ltd., 12A Road East, Jamshedpur.	
1949	164.	MITRA, K., M.B., D.P.H., D.T.M. & H., F.S.S. (Eng.), Nutrition Adviser, Directorate General of Health Services, New Delhi.	
1953	165.	MITRA, R. P , D.Sc., Professor of Chemistry, Delhi University, Delhi 8.	
1944	166.	MITRA, SUBODH, M.D., F.R.C.S., F.R.C.O.G., 4 Chowringhee Terrace, Calcutta.	
1941	167.	MITRA, S. C., M.A., Ph.D. (Leip.), Professor of Psychology, Calcutta University, 92 Upper Circular Road, Calcutta 9.	
F	168.	MITRA, S. K., D.Sc., Emeritus Professor of Physics, Calcutta University, 92 Upper Circular Road, Calcutta 9.	Mem. 1935-1939. 1947-1949. 1952-1954, 1956-; Ad. V.P. 1945, 1950, 1955; V.P. 1943-1944; Ad. Mem. 1940-1942.
1948	169.	MITTER, G. C., M.Sc., F.R.I.C , M. Inst. Met., Master, Assay Department and Silver Refinery Project, 47 Strand Road, Calcutta 7.	
F	170.	MITTER, P. C., M.A., Ph D., 22 Garpar Road, Calcutta.	Ad. V.P. 1945.
1954	171.	MODAK, N. V., B.E., A.M.I.C.E., "Udyam" near Shivaji Park, Bombay 28.	
1948	172.	MOGHE, M A., Ph.D., F.Z.S., Professor of Zoology, Poona University, Poona 7.	Mem. 1953-1955.
1943	173.	†MUKERJI, B., D.Sc., M.B., M.P.S., F.A.Ph.S., F.A.A A.S., F.I.C., Director Central Drug Research Institute, Chattar Manzil Palace, Lucknow, U. P.	Ad. Mem. 1947, 1950, 1951; Mem. 1948 1949, 1952-1953, 1956. V.P. 1954-1955;
F	174	MUKHERJEE, J. N., D.Sc., F.C.S., F.A.S., 10 Puranchand Nahar Avenue, Calcutta 13.	Mem. 1935-1938; Ad. V.P. 1939-1940, 1952; V.P. 1941-42. F.Sec. 1943-1944, 1947-1951; Ed. 1945-1946.
1953	175.	MUKHERJI, K. C., M.A., Lecturer in Psychology, Calcutta University; Government Quarters, Block A, Flat 10, Calcutta 14.	
1955	176.	NAGAPPA, Y., M.Sc. (Mysore), Palaeontologist, Assam Oil Co., Ltd., Digboi.	

Year of election	Serial No.		Service on Council
F	177.	NAIK, K G., D.Sc., F.R.I.C., Naik Villa, Pratapganj, Baroda.	Mem. 1943-1945
1945	178.	NAIR, U. S., M.A., Ph.D. (Lond.), Head of the Department of Statistics, Travancore University, Trivandrum.	
1946	179.	NARAYANA, BASUDEV, M.Sc., M.B., Ph.D., F.R.S.E., Vice-Chancellor, Patna University, Patna.	
1940	180.	NARAYANAMURTI, D., B.Sc. (Mys.), M.Sc. (Bom.), Dr. Ing. (Danzig), A.I I.Sc., F.R.I.C , F Inst.P., M.I.Chem.E., Chief Research Officer, Composite Wood Branch, Forest Research Institute, New Forest, Dehra Dun.	
1939	181.	NARLIKAR, V. V., B Sc. (Bom.), M.A. (Cantab.), F.R.A.S., Professor of Mathematics and Head of the Department, Banaras Hindu University, Banaras.	Mem. 1942-1944
1950	182.	NATH, M. C., D.Sc., F.R.I.C., Chitnavis Professor and Head of the University Department of Biochemistry, Nagpur University, Nagpur.	
1943	183.	NATH, RAJ, Ph.D., D.I.C., University Professor and Head of the Department of Geology, Banaras Hindu University, Banaras.	
1940	184.	NATH, VISHWA, M.Sc., Ph.D., University Professor and Head of the Department of Zoology, Panjab University, Hoshiarpur.	
1947	185.	NEHRU, THE HON'BLE PANDIT JAWAHARLAL, Prime Minister of India, New Delhi.	
F	186.	†NORMAND, SIR CHARLES W.B., Kt. C.I.E., M.A., D.Sc., c/o Midland Bank, Gloucester Road, London, S.W. 7.	Mem. 1935-1940; 1944; V.P. 1941-1942.
1946	187.	PAL, B. P., M.Sc., Ph.D. (Cantab), F.L.S., F.B.S., Director, Indian Agricultural Research Institute, New Delhi 12.	Mem. 1951; Trea. 1952; Sec. 1953-
1956	188.	PAL, R.K., M.B. (Cal.), D.Sc. (Edin.), M.R.C.P., F.R S.E., 5/4 Ballygunge Place, Calcutta 19.	
1953	189.	PALIT, S. R., D Sc., F.R.I.C., Professor and Head of the Department of Physical Chemistry, Indian Association for the Cultivation of Science, Jadavpur, Calcutta 32.	
1939	190.	PANDIT, C. G., M.B.B.S., Ph.D., D.P.H., D.T.M., Director, Indian Council of Medical Research, 'P' Block, Raisina Road, New Delhi.	Govt. Rep. 1945, 1948-1952; Mem. 1948; Trea 1949-1951.
1952	191.	†PANIKKAR, N. K., D.Sc., Chief Research Officer, Central Marine Fisheries Research Station, Mandapam Camp P.O., Madras.	
1944	192.	PANJA, G., M.B., D.Bact., P. 117 Vivekananda Road, Calcutta.	

Year of election	Serial No.		Service on Council
1946	193.	PANSE, V. G., Ph.D., Statistical Adviser, Indian Council of Agricultural Research, New Delhi 12.	Mem. 1951-1952.
1937	194.	PARANJPE, G.R., M.Sc., A.I.I.Sc., I.E.S. (Retired), 'Sudarshan', 20/1 Sadashiv, Poona 2.	Mem. 1939-1942; 1949-1950.
F	195.	†PARANJPYE, R. P., D.Sc., Purushottam Ashram, Poona 4.	
F	196.	PARIJA, P., Padmabhusan, M.A. (Cantab), D.Sc., I.E.S. (Retd.), Vice-Chancellor, Utkal University; 10 Cantonment Road, Cuttack 1.	Mem. 1940-1943, 1947-1948, 1950; Ad. Mem. 1939, V.P. 1951-1952.
1949	197.	PARTHASARATHY, N., B.Sc. Ag., Ph.D. (Lond.), Director, Central Rice Research Institute, Naya Bazar, Cuttack.	
1939	198.	PASRICHA, C.L., M.A., M.B., B.Chir., M.R.C.S., L.R.C.P., Lt.-Col., I.M.S., 21 Park Hill, Ealing, London W.5., U.K.	Ad. Mem. 1941; Ad V.P. 1947.
1936	199.	†PERCIVAL, F.G., O.B.E., Ph.D., F.G.S., Sadlers End, Haslemere, Surrey, England.	Mem. 1941-1943.
1942	200.	PICHAMUTHU, C.S., Ph.D , D.Sc. (Glasgow), F.R.S.E., F.G.S., Director of Geology, Mysore Geological Department, Bangalore 1.	
1952	201.	PRAMANIK, S.K., D.Sc., c/o United Nations, Heshmat-dowleh P.B O. 1555 Tehran, Iran.	
1936	202.	PRASAD, B. N., Dres Sc., Ph.D., Lakshmi Niwas, George Town, Allahabad.	Mem. 1945-1946, 1955-; Ad Mem. 1953-1954.
1935	203.	PRASAD, MATA, D.Sc., F R.I C , 1841 Krishna Nagar, Bhavnagar, Saurashtra.	Mem. 1948-1949, 1951-1952, 1955-
F	204.	PRASHAD, BAINI, D.Sc., F.A.S., 10 Dobhawala Road, Dehra Dun.	Mem. Ed. 1935-1939; Ad. V.P. Ed. 1940; Pres. 1941-1942.*
F	205.	PRUTHI, HEM SINGH, O.B.E., Sc.D. (Cantab.), F A.S., Entomologist to Panjab University, Panjab University School of Entomology, Hoshiarpur.	Mem. 1945-1946, 1953-1954 ; Sec. 1947-1952.
1949	206.	RACINE, C , S.J., D.Sc. (Paris), Professor of Mathematics, Loyola College, Madras 31.	
1953	207.	RAIZADA, M B., M.Sc., Systematic Botanist, Forest Research Institute, New Forest, Dehra Dun.	
1935	208.	†RAJ, B. SUNDARA, M.A., Ph.D., Park View, Miller Road, Kilpauk, Madras 10.	
1948	209.	RAJU, S. P., B.E., Dr. Ing., M.I.E., 'Hill View', Red Hills, Hyderabad (Deccan).	
1943	210.	RAKSHIT, H., D.Sc., F.Inst.P., Head of the Department of Electronics and Electrical Communication Engineering, Indian Institute of Technology, Kharagpur.	

Year of election	Serial No.		Service on Council
1953	211.	RAM, ATMA, D.Sc., F.S.G.T., Director, Central Glass and Ceramic Research Institute, P.O. Jadavpur College, Calcutta 32.	Govt. Rep. 1956-
1955	212.	RAMAMURTI, B., M.A., D.Sc., Joint Director, Central Statistical Organization, Cabinet Secretariat, 'B' Barracks, Jan Path, New Delhi.	
F	213.	RAMANATHAN, K. R., M.A., D.Sc., Physical Research Laboratory, Navarangpura, Ahmedabad.	Mem. 1942-1944; V.P. 1955-
1948	214.	RAMANUJAM, S., Ph.D., Director, Central Potato Research Institute, P.B. No. 136, Patna.	
1935	215.	RAMDAS, L. A., M.A., Ph.D., Deputy Director General of Observatories, Meteorological Office, Poona 5.	Mem. 1945-1947, 1950-1952.
1942	216.	RAMIAH, K. D.Sc., "Swathi", 552, XIX Cross Road, Malleswaram P.O., Bangalore 3.	
1943	217.	RANDHAWA, M.S., M.Sc., I.C.S. Vice-President, Indian Council of Agricultural Research and Additional Secretary, Ministry of food and Agriculture, Government of India, Queen Victoria Road, New Delhi.	Mem. 1947; Trea. 1948.
1951	218.	RANJAN, SHRI, D.Sc., Professor and Head of the Department of Botany, Allahabad University, Allahabad.	Ad. V.P.1954-1955
F	219.	RAO. B. RAMA, M.A., D.I.C., F.G.S., 291, Srivilas, Visvesvarapur, Bangalore 4.	Mem. 1943-1945.
1944	220.	RAO, B. SANJIVA, M.A., Ph.D., D.Sc. (Lond.), Professor of Chemistry, Gauhati University, Jhalukbari, Kamrup Dist., Assam.	Ad. Mem. 1949, 1952; Mem.1953-1954.
1953	221.	RAO, B. S. MADHAVA, D.Sc., Professor, Institute of Armament Studies, Kirkee. Poona 3.	
1954	222.	RAO, C. RADHAKRISHNA, M.A., Ph.D., Professor and Head of the Division of Theoretical Research and Training, Indian Statistical Institute, 203, Barrackpore Trunk Road, Calcutta 35.	
1937	223.	RAO, H. SRINIVASA, M.A., D.Sc., F.A.S., F.Z.S.I. 4/86, East Cross Road, No. 22, Katpadi Township, Katpadi P.O., North Arcot Dist., Madras State.	
1937	224.	RAO, K. RANGADHAMA, D.Sc. (Madras and London), Principal, College of Science and Professor of Physics, Andhra University, Waltair.	
1939	225.	RAO, L. RAMA, M.A., F.G.S., "Shantiniketan", H.B. Samaja Road, Basavangudi, P O., Bangalore 4.	
1945	226.	RAO, M. V. RADHAKRISHNA, M.B., B.S., Ph.D. (Andhra), Assistant Director, Haffkine Institute, Parel, Bombay.	

Year of election	Serial No.		Service on Council
1948	227.	RAO, S. RAMCHANDRA, Ph.D., D.Sc., Professor of Physics, Sri Venkateswar University, Tirupati (Andhra).	
1951	228.	RAO, S. R. NARAYAN, M.A., Professor and Head of the Department of Geology, Lucknow University, Lucknow.	
1950	229.	RAY, H. N. Ph.D., Professor of Protozoology, School of Tropical Medicine, Calcutta 12.	
1948	230.	RAY, J. C., M.D., Director, Indian Institute for Medical Research, P27 Prinsep Street, Calcutta 13.	
1935	231.	RAY, J.N., D.Sc., Ph.D., F.R.I.C., Factory Manager, M/s Geoffrey Manners & Co., Ltd., Hattersley Mill Estate, Bombay Agra Road, Ghatkopar, Bombay.	
F	232.	RAY, P., M.A., Indian Association for the Cultivation of Science, Jadavpur, Calcutta 32; 50/1 Hindusthan Park, Ballygunge, Calcutta 29.	Mem. 194[illegible]-19[illegible]
1943	233.	RAY, R. C., D.Sc. (Lond.) F.R.I.C., Emeritus Professor of Chemistry, Science College, Patna; B.M. Das Road, Bankipore, Patna.	
1956	234.	RAYCHAUDHURI, Sachi P., M.Sc., Ph.D. (Edin.), University Lecturer in Zoology, Calcutta University, 35 Ballygunge Circular Road, Calcutta 19.	
1952	235.	RAYCHAUDHURI, S. P., M.Sc. (Cal.), Ph D. (Lond.), D.Sc. (Cal. & Lond.), F.R.I C., Head of the Division of Soil Science and Agricultural Chemistry, Indian Agricultural Research Institute, New Delhi 12.	
1945	236.	ROONWAL, M. L., M.Sc., Ph.D. (Cantab.), Major, Forest Entomologist, Forest Research Institute, New Forest, Dehra Dun.	
1954	237.	ROY, A. K., B.Sc., (Cal.), B.A. (Oxon), Officer-in-charge, Rain and Cloud Physics Research, National Physical Laboratory, Hillside Road, New Delhi.	
1940	238.	ROY, S. C., F.R.Met.Soc. (Lond), Deputy Director-General of Observatories (Instruments and Supplies), India Meteorological Department, Lodi Road, New Delhi.	
1940	239.	ROY, S.K., Ph.D., In-charge of Development of Coal Mines, Dabor Colliery, P.O. Shamdih, Dist. Burdwan (*via* Sitarampur), E. Ry.	
1944	240.	ROY, S. N., M.Sc., Institute of Mathematics and Statistics, University of N. Carolina, Chapel Hill, N.C., U.S.A.	
1955	241.	SADASIVAN, T. S., M.Sc., D.Sc. (Lond.), Director (Professor), University Botany Laboratory, Madras 5.	

Year of election	Serial No.		Service on Council
1950	242.	SAHNI, M.R., M.A., D.I.C., Ph.D., D.Sc., Superintending Geologist, Geological Survey of India, 27 Chowringhee Road, Calcutta 13.	
1952	243.	SAKESENA, R.K., D.Sc., Reader in Botany, Allahabad University, Allahabad.	Ad. Mem. 1953-1954.
1953	244.	SANTAPAU, H. (Rev.), S J., Ph.D., Director, Biological Section, St. Xavier's College, Fort, Bombay.	
1935	245.	SARKAR, P.B., Dr. es Sc., A.I.C., Ghose Professor of Chemistry, Calcutta University, 92 Upper Circular Road, Calcutta 9.	
1946	246.	SARKAR, P.B., D.Sc. (Dacca), Director of Technological Research Laboratories, Indian Central Jute Committee; P, 133B Lake Terrace, Calcutta 29.	
1941	247.	SAVUR, S. R., M.A., L.T., Ph.D., Head of the Department of Geophysics, Andhra University, Waltair.	
1951	248.	SAWHNEY, K., M.Sc., F.A.Sc., "Shanti Niwas", Lalaguda P.O., Secunderabad, Deccan.	
1955	249.	SEAL, S.C., M B.B.S. (Cal.), D.P.H. (Cal.) Ph.D. (Bombay), F.A.P.H.A. (U S.A.), Professor of Epidemiology, All India Institute of Hygiene and Public Health, 110 Chittaranjan Avenue, Calcutta 12.	
1952	250.	SEN, B., D.Sc., S.S. Villa, Bara Bazar, Chandernagore, W. Bengal.	
F	251.	SEN, B.M., M.A., M.Sc., I.E.S. (Retired), 12 Ballygunge Circular Road, Ballygunge, Calcutta 19.	
1935	252.	SEN, J. M., B.Sc., M.Ed. (Leeds), Dip. Ed. (Oxford), T.D. (London), F.N.A.Sc., Block F, No 108/J, New Alipore, Calcutta 33.	Mem. 1944-1946. 1949-1950; Ad. Mem. 1948; Ed. 1951.
1949	253.	†SEN, K.C., D.Sc, Director of Dairy Research, Ministry of Food and Agriculture, New Delhi.	
1951	254.	SEN, N. K., D.Sc., (Dacca), F.R.I.C., 7/5 Benode Saha Lane, Calcutta 6.	
F	255.	SEN, N. R., Ph.D., D.Sc., Ghose Professor of Applied Mathematics, Calcutta University, 92 Upper Circular Road, Calcutta 9.	Mem. 1935-1941, 1949-1951.
1954	256.	SEN, R.N., M.A., Ph.D., Professor of Pure Mathematics, Calcutta University; 30 Mohan Bagan Lane, Block 2, Calcutta 4.	
1954	257.	SEN GUPTA, M.R., B.Sc. (Cal.) B.Sc., (Eng.) Hons. (Glas.), C.P.E., F.I.P.S., University Professor and Head of the Department of Electrical Engineering, and Principal, Engineering College, Banaras Hindu University, Banaras.	
1953	258.	SESHACHAR, B.R., Professor and Head of the Department of Zoology, Central College, Bangalore.	Mem. 1956-

Year of election	Serial No.		Service on Council
1942	259.	SESHADRI, T.R., M.A., Ph.D., (Manchester), Professor of Chemistry, Delhi University, Delhi 8.	
1943	260.	SETNA, S. B., M.Sc., Ph.D. (Cantab), F.R.M.S., proposed New India Fisheries Ltd., Souvenir Building, 1st Pasta Lane, Colaba, Bombay.	
1936	261.	†SEWELL, R. B. SEYMOUR, Lt. Col., C.I.E., M.A., Sc.D., F.R.S., M.R.C.S., L.R.C.P., F.Z.S. F.L.S., F.A.S., 18 Barrow Road, Cambridge.	
1941	262.	SHAH, R. C., M.Sc., Ph.D., (Lond.), Assistant Director, National Chemical Laboratory, Poona 7.	
1952	263.	SHAH, S.M., M.A., Ph.D., D.Litt. (Lond.), Professor and Head of the Department of Mathematics and Statistics, Muslim University, Aligarh.	
1939	264.	SHARIF, M., D.Sc., Ph.D., Professor of Zoology and Director, University Zoology Laboratories, Government College, Lahore, Pakistan.	
1937	265.	SIDDIQI, M. R., M A., Ph D., Vice-Chancellor, Peshawar University, Peshawar, Pakistan.	Mem. 1941-1943, 1946-1947.
F	266.	SINGH, B.K., M.A., Sc.D., F.R.I.C., I.E.S., Honorary Research Professor of Chemistry, Banaras Hindu University, Banaras.	Ad. V. P. 1935-1936, 1944-1946; Ad. Mem. 1941.
1941	267.	SINGH, B. N., D.Sc., M.Sc., F.N.A.S., F.A.Sc., F.R.H.S., Crop Physiologist to Government, U.P., Institute of Crop Physiology, Dilkusha, Lucknow.	
1952	268.	SINGH, I., M.B.B.S., Ph.D., L.R.C.P., M.R.C.S., Professor of Physiology, Agra Medical College, Agra.	
1956	269.	SINGH, J., M.B., Ch.B. (Edin.) D.T.M.&H. (Lond.), D.P.H. (Eng.), Lt.-Col., Director, Malaria Institute of India, Delhi 8.	
1954	270.	SIRCAR, S.M., M.Sc., Ph.D. (Lond.) D.I.C., Reader in Botany, Calcutta University, 35 Ballygunge Circular Road, Calcutta 19.	
1942	271.	SIRKAR, S.C., D.Sc., M.L.S. Professor of Physics, Indian Association for the Cultivation of Science, Jadavpur, Calcutta 32.	
F	272.	SOKHEY, S. S., M.A., M.D., D.T.M.&H., Major General, I.M.S., c/o Haffkine Institute, Parel, Bombay 12.	Mem. 1935-1938. 1946-1947; V P 1948-1949.
1941	273.	SONDHI, V. P., M.Sc., F.G.S., Dy. Director (Min. Dev.). Geological Survey of India, 27 Chowringee Road, Calcutta.	
F	274.	SPENCER, E., D.Sc., Ph.D., F.R.I.C., A.R.S.M., M.I.M.M., F G.S., Ashfield House, Kighey Road, Colne, Lancs, England.	

Year of election	Serial No.		Service on Council
1950	275.	SREENIVASAN, A., D.Sc., F.R.I.C., Professor of Food Technology, Department of Chemical Technology, University of Bombay, Matunga Road, Bombay 19.	
1946	276.	SRIVASTAVA, B. N., D.Sc., Professor of General Physics, Indian Association for the Cultivation of Science, Jadavpur, Calcutta 32.	
1935	277.	SRIVASTAVA, P.L., M.A., D.Phil., Head of the Department of Mathematics, Allahabad University, Allahabad.	Ad. Mem. 1942-1943, 1945, 1948-1949, 1951-1952; Ad. V.P. 1944, 1956
F	278.	SUBRAHMANYAN, V., D.Sc., F.R I.C., Director, Central Food Technological Research Institute, Cheluvamba Mansion, V.V. Mohalla P.O., Mysore.	Mem. 1938, 1952-1954.
1943	279.	SUKHATME, P. V., M.Sc. (Lond.), Ph.D., M 64 Connaught Circus, New Delhi.	Mem. 1950-1951.
1038	280.	SUR, N.K., D.Sc., 74 Tagore Town, Allahabad 2.	Mem. 1941-1943.
1956	281.	†SWAROOP, S., M.A., Ph.D., M.P.H., Chief, Statistical Studies Section, World Health Organization, Palais des Nations, Geneva, Switzerland.	
1942	282.	TAWDE, N.R., M.Sc., Ph. D.-(Lond.), F. Inst. P., Professor of Physics, Karnatak University, Dharwar.	Mem. 1953-1955
1953	283.	THACKER, M. S., B. Sc. (Engg.), M.I.E.E , Assoc. A.I.E.E., Director, Council of Scientific and Industrial Research, Old Mill Road, New Delhi.	Mem. 1954-
1952	284.	THAPAR, G.S. M.Sc., Ph.D., 14 Mahatma Gandhi Road, Lucknow.	
1956	285.	THIRUMALACHAR, M.J., D.Sc., Ph.D., Chief Mycologist, Hindustan Antibiolics, Pimpri, Poona.	
1943	286.	TOSHNIWAL, G. R., D. Sc., S.M.I R.E., Managing Director, Toshniwal Bros. Ltd., 198, Jamshedji Tata Road, Churchgate, Bombay 1.	
1943	287.	TRIBEDI, B.P., M.B. (Cal.), D.B. (Lond.), 11/1 Kyd Street, Calcutta 16.	
1935	288.	†UKIL, A.C., M.B., M.S.P.E. (Paris), F.S.M.F. (Hon. causa), F.C.C.P. (Emeritus), F.A.S., 57 McLeod Street, Calcutta 16.	Mem. 1945-1947, 1949 1951, 1953-1954; Ad Mem. 1952; Ad. V.P. 1948; Pres. 1955-
1944	289.	UPPAL, B.N., Ph.D., Agricultural Commissioner with the Government of India, Indian Council of Agricultura Research, Queen Victoria Road, New Delhi.	
1952	290.	UPPAL, H.L., M.Sc., Ph.D., Director, Irrigation & Power Institute, Amritsar.	
1942	291.	†VACHELL, E.T., M.A. (Cantab.), F.G.S., F.Inst.P., F.S.A., Coley, Lydwell Road, Torquay, Devon, England.	

Year of election	Serial No.		Service on Council
1953	292.	VAIDYA, W.M., Ph.D., Assistant Director, National Physical Laboratory, Hillside Road, New Delhi.	
1949	293.	VARMA, R. S., D. Sc., Officer-in-Charge, Defence Science Laboratory, N.P.L. Building, New Delhi 12.	
1950	294.	VASUDEVA, R S., Ph.D. D.I.C., Head of the Division of Mycology and Plant Pathology, Indian Agricultural Research Institute, New Delhi 12.	
1939	295.	VENKATARAMAN, K., M.S. Tech., Ph.D., D Sc., Director, Department of Chemical Technology, Bombay University, Matunga Road, Bombay.	Mem. 1943-1945, 1952-1953, 1955-
F	296.	VENKATESACHAR, B., Rao Bahadur, M.A., F.Inst., P., Ambica Vilas, 62 Gandhi Bazar Street, Basavangudi, Bangalore.	Mem. 1935-1941.
1955	297.	VENKITESWARAN, S. P., B. A. (Hons.), F. A. Sc., A M.I.T.E. Director, Agricultural Meteorology, Meteorological Office, Poona 5.	
1946	298.	VERMAN, L.C., B.S.Eng., M.S., Ph.D., (Cornell), F.Inst.P., Director, Indian Standards Institution, 19 University Road, Delhi.	
F	299.	VISWANATH, B., D.Sc., F.R.I.C., 'Krishna Nivas', 8-A/85, Western Extension, Pusa Road, New Delhi.	Ad. V. P. 1939-1940.
F	300.	WADIA, D.N., M.A., D.Sc. (Hon.), F.G.S., F.A.S., Geological Adviser to the Atomic Energy Commission, Government of India ; 10 King George's Avenue, New Delhi.	Ad. V. P. 1942 ; V.P. 1943-1944; Pres. 1945-1946;* Govt. Rep. 1947.
F	301.	WEST, W.D., C.I.E., M.A., Sc.D. (Cantab), F.A.S., Department of Geology, Saugar University, Saugar.	Ad. Mem. 1935-1940; Ad. V. P. 1941-1944, 1946, 1949; Sec. 1945; Mem. 1947-1948.
F	302.	WHEELER, T.S., D.Sc., Ph.D., F.R.C.Sc.I., F.R.I.C., F.Inst.P., M.I.Chem.E , Professor of Chemistry, University College, Upper Merrion Street, Dublin.	Ad. V.P. 1937.
1940	303.	YAJNIK, N. A., M. A., D.Sc., A.R.I.C., Tejpal House, Bomanji Patil Road, Bombay 26.	

HONORARY FELLOWS

1939	1.	APPLETON, SIR EDWARD, V., G.B.E., K.C B., D.Sc., F.R.S., N.L., Principal and Vice-Chancellor of the University of Edinburgh, The Old College, South Bridge, Edinburgh 8.	
1941	2.	BAILEY, SIR E.B., Kt.; D.Sc., LL.D., F.R.S., Formerly Director-General, Geological Survey of Great Britain, 19 Greenhill Gardens, Edinburgh.	

* "Past Presidents up to a limit of 3, who have most recently held office of President shall be *ex-officio* Additional Members of the Council."

† Paid compounding fee for all future subscriptions.

Year of election	Serial No.	
1945	3.	Blakeslee, A.F., D Sc., Ph.D., LL. D., Director of Genetics, Experiment Station, Smith College, Northampton, Mass , U.S.A.
1935	4.	Bohr, Niels, N.L., Director, Copenhagen Institute of Theoretical Physics, Blegdamsvej 15, Copenhagen, Denmark.
1949	5.	Broglie, Louis de, D.Sc. N.L., Professor of Theoretical Physics, Poincare Institute, Sorborne, Paris.
1947	6.	Burn, J H., M.D., F.R.S., Professor of Pharmacology, Oxford University, South Parks Road, Oxford.
1955	7.	Chain, E. B., F.R.S., Professor of Biochemistry, Institute Superiore de Sanita, Rome.
1954	8.	Chapman, Syd Ney, Sedleian Professor of Natural Philosophy, Oxford University, Oxford.
1940	9.	Christophers, Sir Rickard, Kt., C.I.E., O.B.E., M.D., Brevet-Colonel, I.M.S. (Retired), 186 Huntingdon Road, Cambridge.
1944	10.	Dale, Sir Henry Hallett, Kt., O.M., G.B.E., M.A., M.D., F.R.C.P., Hon. D.Sc., Hon. M.D,, Hon. LL.D., F.R.S., Formerly Director of the Davy-Faraday Research Laboratory and Fullerian Professor of Chemistry in the Royal Institution, London ; 54 Campden Hill Court, Kensington, London; W. 8.
1953	11.	Daly, Reginald A., Professor Emeritus of Geology, Harvard University, Cambridge, Mass, U,S.A.
1950	12.	Debye, P., N.L., Professor of Chemistry, Cornell University, Ithaca, New York, U.S.A.
1947	13.	Dirac, P.A.M., F.R.S., N.L., Lucasian Professor of Mathematics, Cambridge University, Cambridge.
1936	14.	Donnan, F.G., F.R.S., Formerly Director, Sir William Ramsay Laboratory, University College, London; Roseneath, Hartlip, near Sittingbourne, Kent, England.
1954	15.	Engelhardt, V.A., Professor of Biochemistry. Institute of Biochemistry, Moscow Academy of Sciences, U.S.S.R., Moscow.
1949	16.	Euler, Hans von, N.L., Professor of Chemistry, Stockholm University, Stockholm, Sweden.
1939	17.	Fisher, R.A., Sc D., F.R.S., Professor of Genetics, Cambridge University, Whittingehame Lodge, 44 Storey's Way, Cambridge.
1953	18.	Haldane, J.B.S., Professor of Biometry. University College, London.

Year of election	Serial No.	
1954	19.	HEISENBERG, W., N.L., Director, Max-Planck Institute, Gottingen, West Germany.
1944	20.	HILL, A. V., C.H., O.B.E., Sc.D., F.R.S., N.L., Foulerton Research Professor, Biophysics Research Unit, University College, Gower Street, London, W.C. 1.
1952	21.	HOUSSAY, BERNARDO A., N.L., Institute de Biologia y Medicina Experimental, Costa Rica 4185, Buenes Aires, Argentina, South America.
1956	22.	KAPITZA, PETER, Director, Institute of Physical Problems, Academy of Sciences, Moscow.
1954	23.	KARRER, PAUL, N.L., University of Zurich, Zurich, Switzerland.
1956	24.	KREBS, HANS ADOLF, Professor of Biochemistry, Oxford University, Oxford.
1951	25.	KÜHN, Richard, N.L., Director, Max-Planck Institut fur Forschung Institut fur Chemie, Heidelberg, Germany.
1950	26.	LAUE, M. VON, N.L., Professor of Theoretical Physics, Berlin University, Berlin, Germany.
1941	27.	LAWRENCE, E.O., Radiation Laboratory, California University, Berkeley, U.S.A.
1955	28.	LEIPER, R. T., F.R.S., Director, Commonwealth Bureau of Agricultural Parasitology, St. Albans, England.
1952	29.	MARK, HERMANN, Director of Polymer Research, Brooklyn Polytechnic Institute, Brooklyn, U.S.A.
1935	30.	MARSHALL, SIR GUY A.K., K.C.M.G., D.Sc., F.R.S., Formerly Director, Imperial Institute of Entomology, London; 31 Melton Court, London, S.W. 7.
1951	31.	MULLER, H.J,, D Sc., N.L., Professor of Zoology, Indiana University, Bloomington, Indiana, U.S.A.
1956	32.	NESMEYANOV, A. N., President of the Academy of Sciences, U.S.S.R., Moscow.
1937	33.	ROBINSON, SIR RCBERT, D Sc., F.R.S., N.L., Waynflete Professor of Organic Chemistry in the Dyson Perrins Laboratory, Oxford University, Oxford, England.
1938	34.	RUSSELL, SIR E. JOHN, D.Sc., F.R.S., Formerly Director, Rothamsted Agricultural Experimental Station; Campsfield Wood, Woodstock, Oxfordshire, England.
1950	35.	SCHRÖDINGER, ERVIN, N.L. Professor of Theoretical Physics. Institute of Advanced Studies in Theoretical Physics, Dublin, Eire.

Year of election	Serial No.	
1946	36.	SELYE, HANS, Professor and Director, Institute of Experimental Medicine & Surgery, University of Montreal, Canada.
1949	37.	SHAPLEY, HARLOW, M.A., Ph.D., LL.D., D.Sc., D Litt., Director of Harvard University Observatory and President, American Science Association, Cambridge, Mass., U.S.A.
1950	38.	SIEGBAHN, M., N.L., Professor of Physics, University of Uppsala, Sweden.
1947	39.	SZENT-GYÖRGYI, A., N.L., Professor of Biochemistry, Marine Biological Laboratory, Woodshole, Mass, U.S.A.
1949	40.	TISCHLER, GEORG, Professor, Botanical Institute. University of Kiel, Berlin.
1947	41.	UREY, HAROLD C., N.L., Professor of Chemistry, Institute of Nuclear Studies, University of Chicago, Chicago 39, Illinois, U.S.A.
1951	42.	WARSMAN, SELMAN A., Professor of Microbiology, New Jersey Agricultural Experimental Station, Nicol Avenue, New Brunswick, New Jersey, U.S.A.
1953	43.	WEYL, HERMANN, Bergstrasse 27, Zurich, Switzerland.

APPENDIX II

COMMITTEES

Sectional Committees, 1956

(1) Mathematics' Committee for Mathematics, Astronomy and Geodesy :—

		To serve until Dec. 31
Prof. S. K. Banerji	...	1956
Prof. C. Racine	...	1956
Prof. P. C. Mahalanobis	...	1957
Dr. B. N. Prasad (Secy. and Convener)	...	1957
Prof. Ram Behari	...	1958
Prof. K. Chandrasekharan	...	1958

(2) 'Physics' Committee for Physics and Meteorology :—

Dr. D. S. Kothari	...	1956
Dr. N. R. Tawde	...	1956
Prof. S. K. Mitra (Secy. and Convener)	...	1957
Dr. S. Bhagavantam	...	1957
Prof. K. Banerjee	...	1958
Dr. K. R. Ramanathan	...	1958

(3) 'Chemistry' Committee for Pure and Applied Chemistry :—

Dr. V. Subrahmanyan	...	1956
Prof. S. S Joshi	...	1956
Dr. Mata Prasad	...	1957
Prof. P. Ray (Secy. and Convener)	...	1957
Prof B. C. Guha	...	1958
Dr. K. Venkataraman	...	1958

(4) 'Engineering Sciences' Committee for Engineering, Metallurgy, Electrotechnics and kindred subjects :—

Prof. M. S. Thacker (Secy. and Convener)	...	1956
Dr. H. K. Mitra	...	1956
Prof M. R. Sen Gupta	...	1957
Dr. H. L. Uppal	...	1957
Sri A. N. Khosla	...	1958
Dr. V. M. Ghatage	...	1958

(5) 'Geology' Committee for Geology, Palaeontology, Mineralogy and Geography :—

Dr. M. S. Krishnan	...	1956
Dr. Raj Nath	...	1956
Dr. M. R. Sahni	...	1957
Dr. D. N. Wadia (Secy. any Convener)	...	1957
Dr. K. Jacob	...	1958
Prof. C. Mahadevan	...	1958

(6) 'Botany' Committee for Pure and Applied Botany, Forestry and Agronomy :—

Prof. T. S Mahabale	...	1956
Dr. B. P. Pal (Secy. and Convener)	...	1956
Prof. P. Maheshwari	...	1957
Prof. S. Ranjan	...	1957
Dr. A. C. Joshi	...	1958
Prof. S. P. Agharkar	...	1958

(7) 'Zoology' Committee for Pure and Applied Zoology and Anthropology including Ethnology :—

Prof. M.A. Moghe	...	1956
Dr. H. S. Pruthi (Secy. and Convener)	...	1956
Dr. H. Srinivasa Rao	...	1957
Dr. B. S. Guha	...	1957
Prof. B. R. Seshachar	...	1958
Dr. B. S. Bhimachar	...	1958

(8) 'Physiology' Committee for Animal Physiology, Pathology, Bacteriology, Psychology and other medical and Veterinary subjects :—

Dr. K. N. Bagchi (Secy. and Convener)	...	1956
Prof. J. M. Sen	...	1956
Dr. K. C. Sen	...	1956
Dr. Robert Heilig	...	1957
Dr. B. P. Tribedi	...	1957
Dr. A. C. Ukil	...	1957
Dr. R. N. Chaudhuri	...	1958
Dr. C. G. Pandit	...	1958
Dr. B. Mukerji	...	1958

Finance Committee, 1956

The President
The Treasurer
The two Secretaries
Dr. Mata Prasad
Prof. J. M. Sen
Prof. M. S. Thacker

Grants Committee, 1956

The President
The Treasurer
The two Secretaries
Conveners of all Sectional Committees

Library Committee, 1956

The President
The Treasurer
The two Secretaries
Members of the Council resident in Delhi.

Standing Committee for Organization of Symposia, 1956

The President, The Treasurer, The two Secretaries — *ex-officio*
Dr. U. P. Basu
Prof. P. S. Gill
Prof. B C. Guha
Prof. Shri Ranjan
Dr. B. Mukerji (Convener)

Research Fellowships Committee, 1956

The President, The Treasurer, The Two Secretaries	*ex-officio*
Dr. B. N. Prasad, Rev. C. Racine, Prof. R. N. Sen	Mathematics
Prof. R S. Krishnan, Prof. S. K. Mitra, Prof. N. R. Tawde	Physics
Prof. P. Ray, Dr. R. C. Shah, Dr. V. Subrahmanyan	Chemistry
Dr. D. N. Wadia, Dr. M. S. Krishnan, Dr. W. D. West	Geology
Prof. P. Maheshwari, Dr. N. Parthasarathy, Prof. T. S. Sadasivam	Botany
Prof. D. N. Majumdar, Prof. M. A. Moghe, Prof. B. R. Seshachar	Zoology
Dr. B. Mukerji, Dr. M. V. Govindaswamy, Dr. J. C. Ray	Physiology
Prof. M. S. Thacker, Dr. D. R. Malhotra, Sri P. C. Bose	Engineering Sciences

Publication Advisory Board, 1956

Members of the Editorial Board
Members of the Council resident in Calcutta

Editorial Board, 1956

Editor of Publications	...	Prof. J. M. Sen
Mathematics	...	Dr. B. N. Prasad
Physics	...	Prof. N. R. Tawde
Chemistry	...	Dr. V. Subrahmanyan
Geology	...	Dr. K. Jacob
Botany	...	Dr. R. K. Saksena
Zoology	...	Dr. J. L. Bhaduri
Anthropology	...	Dr. G. S. Ghurye
Physiology	...	Dr. B. Mukerji
Engineering	...	Prof. M. S. Thacker

Academic Assistance Committee

The President
The Treasurer
The Two Secretaries
} *ex-officio*
Dr. S. L. Hora
Prof. P. C. Mahalanobis

Sub-Committee to consider the preparation of History of Sciences in India

The President
Prof. S. P. Agharkar
Dr. D. M. Bose
Prof. D. S. Kothari
Dr. K. S. Krishnan
Dr. G. P. Majumdar
Prof. S. K. Mitra
Dr. B. Mukerji
Prof. P. Ray
Prof. M. S. Thacker

Biological Board

Members of Sectional Committees for Botany, Zoology and Physiology
Members of Council who are biologists including physiologists.

APPENDIX III

Important Resolutions of the Council

Most of the important items from the proceedings have already been abstracted and incorporated in the Report. Such other important decisions as could not be included in the body of the Report are given below under provisions of the Rule 43(f).

August 5, 1955. (*Mysore*)

(1) During the course of discussion on certain matters of Agenda it was agreed that a Physical Sciences Board be constituted on the same lines as the Biological Board.

(2) The Council recommended certain modifications to Rules 5, 36, 37, 38, 45(h), and 49.

A statement of the Revised Rules placed against the old Rules is given below. The Revised Rules were adopted by the general body of Fellows at the Annual General Meeting held on the 7th October, 1955.

Old Rules

5. The administration, direction, and management of the affairs of the Institute shall be entrusted to a Council composed of the Officers of the Institute—namely, a President, two Vice-Presidents, a Treasurer, two Secretaries, a Foreign Secretary, and such Additional Secretaries as the Council may, from time to time, nominate in accordance with Rule 47—with as many other Ordinary Fellows as shall with these Officers make up a minimum total of 15, or maximum of 25. In addition, there shall be provision for Additional Vice-Presidents and Additional Members of Council to the number of one Vice-President and one Member of Council for each of the existing science academies in India, selected from amongst the Fellows of the National Institute who are Members of such existing academies, as well as from any additional science academies that may be started and comply with requirements of the regulations of the National Institute in this respect. Further, there shall be provision that the President of the Indian Science Congress Association for the time being shall be an Additional Vice-President of the Institute and that one of the Secretaries of the I.S.C.A. for the time being shall be an Additional Member of Council, in each case provided that the President or Secretary is a Fellow of the Institute. In cases where such President or Secretary is not a Fellow of the Institute, the I.S.C.A. shall be entitled to nominate from amongst the Fellows of the Institute another representative as Additional Vice-President or Additional Member of Council. Further there shall be provision for the Government of India to nominate from amongst the Fellows of the Institute their representative on the Council as an Additional Member. Further, past Presidents, up to a limit of 6, who have most recently held office of President shall be *ex-officio* Additional Members of the Council.

Revised Rules

5. The administration, direction, and management of the affairs of the Institute shall be entrusted to a Council composed of the officers of the Institute – namely, a President, two Vice-Presidents, a Treasurer, two Secretaries, a Foreign Secretary and an Editor of Publications together with 18 other Ordinary Fellows making a total of 26. In addition, there shall be provision for additional Vice-Presidents and Additional Members of Council for each of the existing Science Academies in India selected from amongst the Fellows of the National Institute who are members of such existing academies as well as from any additional science academies that may be started and comply with requirements of the regulations of the National Institute in this respect. Further, there shall be provision that the President of the Indian Science Congress Association for the time being shall be an Additional Vice-President of the Institute and that one of the Secretaries of the I.S.C.A. for the time being shall be an Additional Member of Council, in each case provided that the President or Secretary is a Fellow of the Institute. In cases where such President or Secretary is not a Fellow of the Institute, the I S.C.A. shall be entitled to nominate from amongst the Fellows of the Institute another representative as Additional Vice-President or Additional Member of Council. Further, there shall be provision for the Government of India to nominate from amongst the Fellows of the Institute their representative on the Council as an Additional Member. Further, the three past-Presidents who have most recently held office of President shall be *ex-officio* Additional Members of the Council.

36. The Council shall prepare, in accordance with the following procedure, a list of the names of those persons whom they recommend for election as President, Vice-President, Secretaries, Foreign Secretary, Treasurer, Additional Secretaries and other Members of the Council for the ensuing year.

(i) The Council shall determine, at the meeting to be held in August, the vacancies that will occur among the Officers and other Members of the Council during the ensuing year taking into consideration the length of service on the Council, the number of meetings attended, interest in the work of the Council as evidenced by communications on matters under discussion and other relevant matters.

(ii) A list of the Council of the current and two preceding years, indicating the vacancies that will be occurring in the ensuing year, shall be circulated to all Ordinary Fellows in good standing in August, inviting suggestions regarding vacancies, so as to reach the office by a date specified in the Regulations.

(iii) The suggestions shall be circulated to the Members of the Council by a date prescribed in the Regulations for expression of their views, and considered at the meeting of the Council to be held in October when final nominations shall be made.

(iv) The list of nominations shall be printed and a copy sent by post as a voting paper to each Ordinary Fellow of the Institute at least one month before the date selected for the Anniversary General Meeting of the Institute. These voting lists shall have a blank column for such alterations as any Fellow may wish to make. These voting papers shall be returned to the Secretaries at least a week before the date fixed for an Anniversary General Meeting.

36. The Council shall prepare, in accordance with the following procedure, a list of the names of those persons whom they recommend for election as President, Vice-Presidents, Secretaries, Foreign Secretary, Treasurer, Editor of Publications, Additional secretaries and other Members of the Council for the ensuing year.

(i) The Council shall determine at the meeting to be held in August the vacancies that will occur amongst the Officers and other Members of the Council during the ensuing year as per rules 37 and 38.

(ii) The list of the Council of the current and two preceding years indicating the vacancies that will be occurring in the ensuing year shall be circulated in August to all Ordinary Fellows in good standing (whose subscriptions are not in arrears for more than six months), inviting suggestions regarding the filling of vacancies to reach the office by a date to be specified by the Council.

(iii) The suggestions received shall be circulated to the members of the Council by a date prescribed by the Council for expression of their views and considered at the meeting of the Council to be held in October when final nominations shall be made out of the names suggested.

(iv) The list of nominations shall be printed and a copy sent by post as a voting paper to each Ordinary Fellow of the Institute at least one month before the date selected for the Anniversary General Meeting of the Institute. These voting lists shall have a blank column for such alterations as any Fellow may wish to make. These voting papers shall be returned to the Secretaries at least a week before the date fixed for an Anniversary General Meeting.

(v) The manner of election shall be as follows :—

(a) Two scrutineers shall be appointed by the Chairman with the approbation of the majority of the Fellows present.

(b) These scrutineers shall count the voting papers, and shall report to the Chairman the names of those having a majority of votes for election as the Officers and other Members of the Council of the Institute, and these names shall be announced from the Chair as duly elected.

(c) If any voting paper contains more than the proper number of names, or includes the name of a candidate who isnot eligible, it shall be void for uncertainty, and shall not be regarded by the scrutineers.

(d) If there be an equal number of votes for any two or more candidates, the scrutineers shall announce the fact, and the Chairman shall proceed to decide by lot which candidate shall have the preference.

37. No person shall hold the office of President for more than two consecutive years, nor after vacating office shall a person who has held the office of President be eligible for re-election until after the fifth Anniversary General Meeting following that at which he vacated the office of President. No Vice-President shall be eligible to hold office as such for more than two consecutive years, and no person on retirement from the office of Vice-President shall be eligible for re-election until after the expiry of one year. For the purpose of this Rule, the Vice-Presidents of the National Institute and the Additional Vice-Presidents representing Co operating Academies, shall be treated in separate categories.

(v) The manner of election shall be as follows :—

(a) Two scrutineers shall be appointed by the Chairman with the approbation of the majority of the Fellows present.

(b) These scrutineers shall count the voting papers, and shall report to the Chairman the names of those having a majority of votes for election as the Officers and other Members of the Council of the Institute, and these names shall be announced from the Chair as duly elected.

(c) If any voting paper contains more than the proper number of names, or includes the name of a candidate who is not eligible, it shall be void for uncertainty, and shall not be regarded by the scrutineers.

(d) If there be an equal number of votes for any two or more candidates, the scrutineers shall announce the fact, and the Chairman shall proceed to decide by lot which candidate shall have the preference.

37. (a) No person shall hold the office of the President for more than two consecutive years, nor after vacating office shall a person who has held the office of President be eligible for re-election until after the fifth Anniversary General Meeting following that at which he vacated the office of President. No Vice-President shall be eligible to hold office as such for more than two consecutive years, and no person on retirement from the office of Vice-President shall be eligible for re-election to the same office until after the expiry of one year. For the purpose of this Rule, the Vice-Presidents of the National Institute and the Additional Vice-Presidents representing Co-operating Academies, shall be treated in separate categories.

(b) The Secretaries, the Foreign Secretary, the Treasurer and the Editor of Publications shall be eligible to hold office for a period of four consecutive years and shall not be eligible for re-election to the same office until after the expiry of two years.

38. Each year six Members of the Council not being the President, Vice-Presidents, Treasurer, or Secretaries, shall retire from the Council and shall not be eligible for re-election until after the lapse of one year from the date of their retirement. For the purpose of this rule the Editor shall be regarded as a Secretary. The retirement shall be decided by seniority, except in so far as vacancies have not otherwise occurred. In the event of equal seniority the seniority shall be determined by lot.

38. Each year six Members of the Council not being the President, Vice-Presidents, Treasurer, Editor of Publications or Secretaries, shall retire from the Council and shall not be eligible for re-election until after the lapse of one year from the date of their retirement. The retirement shall be decided by seniority, except in so far as vacancies have not otherwise occurred. In the event of equal seniority, the seniority shall be decided by lot. Interim vacancies shall be filled by the Council only for the unexpired period.

45. (h) To be *ex-officio* Members of all Committees appointed by the Council.

45. (h) To be *ex-officio* Members of all the Committees appointed by the Council from time to time, except Sectional Committees and other committees as appointed under Rule 60.

49. The Treasurer shall receive and hold for the use of the Institute, subject to Rule 66, all moneys paid to the Institute ; he shall disburse all sums due from the Institute and shall keep exact accounts of all such receipts and payments. Disbursements exceeding five hundred rupees shall be made only by order of the Council, or of a Committee of the Council, under signature of the Chairman of the Meeting at which the order was passed The Treasurer shall be *ex-officio* Member of all Committees appointed by the Council.

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APPENDIX IV

OBITUARY

Professor W. Burridge, F.N.I.

Dr. William Burridge was born on July 1, 1885 at Newton Abbot in England. He was educated at Christ Church College, Oxford from where he took his M.A. in 1912 and M.B. degree in 1917. The first world war was on then and he immediately enlisted himself in the Royal Army Medical Corps. While serving as a Captain in charge of a batallion, he sustained a severe injury which incapacited him from further active service in the field. In 1920, he rejoined his old college at Oxford and after doing post-graduate work for two years, obtained the Degree of D.M. In 1923 he came to India as a Professor of Physiology in the King Georges' Medical College, Lucknow which post he held for 23 years. During the last two years of his service, he became the Principal of the College and was twice elected Dean of the Faculty of Medicine of the Lucknow University. After retiring from Lucknow Medical College, he became the Professor of Physiology in the University of Rangoon. There he was made the Dean of the Faculty of Medicine and also Principal of the Medical College, Rangoon. Later, in 1953, he came back to India as a Professor in the Hyderabad Medical College. He died of a coronary attack in April, 1955 while on his way to England.

During his life time Dr. Burridge obtained recognition from national and international centres of physiological teaching and research. Students used to like him as an original thinker and an inspiring teacher who could infuse new ideas into them. His notable contributions include a few books and pamphlets such as:

1. Oriental medicine and Western thought, 1925.
2. Excitability, A Cardiac Study, 1932.
3. A new Physiology of sensation, 1932.
4. A new Physiological Psychology, 1933.
5. Alcohol and Anaesthesia, 1934.
6. Climate and labour, 1944.

Dr. Burridge was a member of the Physiological Society of Great Britain and India, Member of the Biochemical Society, Fellow of the National Academy of Sciences and the National Institute of Sciences of India. He was a collaborator from India to the International Archives of Pharmacodynamics.

Dr. Burridge leaves behind four sons and his wife to mourn the loss. We extend our heart-felt sympathies to the bereaved family.

B. Mukerji

Dr. Snehamoy Datta

Dr. Snehamoy Datta was born on the 20th October 1894, in a village in the district of Dacca in East Bengal (now in Pakistan). He was educated in the Dacca Collegiate School and Dacca College and obtained the B.Sc. degree in 1913, with Honours in Physics. He obtained the Woodrow Scholarship and prosecuted his post-graduate studies in Physics at the Presidency College, Calcutta, and took the

M.Sc. degree in 1915, standing second in Class I. He served as a lecturer in Physics in non-government colleges from 1916 to 1918, and went to London in 1919 as Palit Foreign scholar of the University of Calcutta. He joined the Royal College of Science as a research student and obtained the Diploma of the Imperial College of Science in 1920, and the D.Sc. degree of the University of London in 1922. On his return to Calcutta he was appointed as one of the Professors of Physics at the Presidency College, Calcutta, and a part-time post-graduate lecturer in physics of the University of Calcutta in 1923. After working in the Presidency College for about 20 years as Professor of Physics, he became Principal of the Rajshahi College (now in Pakistan). Three years later he was transferred to an administrative job in the Chief Minister's Office in October 1945. In January 1947 he became the Director of Public Instruction, Bengal. He retired from Government service in November 1949. Two years later (in 1951) he became the Registrar of the University of Calcutta and served in that capacity for about three years. He fell ill towards the end of 1954, and went abroad for treatment of cancer of the throat; but as he could not get any relief from his agonising disease he returned to his own house in Ballygunj early in 1955, and died after a protracted treatment in Calcutta.

Dr. Snehamoy Datta made some importent contributions in physics with special reference to spectroscopy. His papers on the subject, viz. the vaccum Arc spectra of sodium and potassium, the spectra of alkaline earth fluorides and their relation with each other, the spectrum of Beryllium, Fluoride, the Absorption Spectrum of Potassium vapour were published in the Proceedings of the Royal Society. Two of his papers, viz. the variation of resistance of selenium with temperature, and the series in Band Spectra were published in the Philosophical Magazine of 1922 and 1924. A few of his papers also appeared in the Astrophysical Journal, and the Journal of the Indian Physical Society. He was elected a Fellow of the National Institute of Sciences of India in 1935, and a Recorder of the Physics section of the Indian Science Congress Association in 1936, In one of the subsequent sessions of the Indian Science Congress he presided over its Physics Section.

J. M. Sen

Dr. Sunder Lal Hora

In Dr. Hora's sudden death in December last, India lost not only one of its seniormost Zoologists but also a top ranking general scientist. Hora was a scientist of international reputation, both on the merit of his researches and by the mark he made at the numerous high level conferences which he attended in different countries of the world. In India also, the highest scientific honours were conferred upon him, viz., the Presidentship of the National Institute of Sciences of India and of General Presidentship of the Indian Science Congress Association. He was also a distinguished Fellow of the Asiatic Society, Calcutta, on the annual session of which he was presiding when he collapsed and died three days after.

Hora's speciality was the study of fishes which he carried out in the laboratory and also in the field. He had a very deep knowledge of this important group of animals and had to his credit work of pioneer nature. Infact he is the first Indian zoologist who carried out most of his investigations in the field where he tried to correlate the habits and structures of fishes to the environmental conditions. He extended his such studies to other groups of animals, e.g. insects, found in the same habitats as his fishes and in those groups also he made very valuable contributions some of which were published in the Transactions of the Royal Society of London. As a result of his studies on the present and past distribution of fishes in

South East Asia, he put forward an ingenious theory now known as Hora's Satpura hypothesis. Thirty out of the 35 years of his active service he spent working as an officer of the Zoological Survey of India of which he had been the Head for about fifteen years at the time of his death and had previously worked as Director of Fisheries Bengal for a full period of five years He was invited to the United Nations conference at Lake Success in 1949 to lead a discussion on the culture, development and conservation of fishes which constitute an important item in human diet in all parts of the world. In addition to his duties in the Zoological Survey, he worked as Fisheries Consultant to the F.A O. and the Damodar Valley Corporation.

Hora was not merely a fish expert, but he was very great deal more. He had a broad knowledge of the principle of all sciences and a real interest in and a knowledge of the psychology of mankind in general. His Presidential Address to the Indian Science Congress Association a few years ago, pleading the cause of Indian Science and scientists was very thought provoking and elicited very favourable comments particularly from many of the foreign delegates. In the National Institute of Sciences of India, he tried to raise the status of biological sciences in this country and was mainly responsible for the setting up of a Biological Board by the Institute for devising plans for promoting researches in these sciences and of a Biological committee with the same objects by the Government of India (Ministry of Natural Resources and Scientific Research and C.S. & I.R.)

Personally Hora was a very genial man ; in spite of his eminence he was very 'approachable' even to younger students and junior members of his staff, to whom he gladly gave guidance and often spent considerable time to revise their theses and research papers. Above all, he was a very faithful colleague and friend. He was apparently keeping good health and could work for about 12 hours a day and therefore at the time of his death at the age of 60 he was so to say still very much engaged in making more contribution to science. Thus while India has lost one of its foremost scientists and a loyal son, many scientists in this country and abroad will always mourn a colleague and a personal friend.

HEM SINGH PRUTHI

PROFESSOR HIMADRI KUMAR MOOKERJEE

(1898-1955)

The sudden death of Professor Himadri Kumar Mookerjee, at the early age of fifty-seven in Calcutta, came as a profound shock and surprise to his many colleagues and friends.

Born on October 18, 1898, and bred in Calcutta, Professor Mookerjee had his early education in the Scottish Church Collegiate School and then at the Presidency College, Calcutta, from where he graduated with honours in zoology in 1922. He passed the M.Sc. examination in zoology in 1924 obtaining the top position in first-class in the thesis group and won the University Gold Medal. While studying in the postgraduate classes he was a student demonstrator in zoology in the undergraduate classes of the University. Soon afterwards he was appointed an assistant lecturer. In 1926 he proceeded to London as a Guruprasanna Ghosh scholar and took admission in the Imperial College of Science and Technology to work under the late Professor E. W. MacBride on the development of the vertebral column of amphibia, and soon proved himself an able researcher. He was Sara Marshall scholar of the Imperial College for two years and Ghosh

Travelling Fellow of the University of Calcutta during 1928-29. He obtained the Diploma of the Imperial College and was finally awarded the degree of D.Sc. of the University of London in 1930. The same year he returned to India and joined his old post in the University, but was soon appointed Lecturer in zoology. He became the University Professor of Zoology in 1933, and later Sir Nil Ratan Sircar Professor, and Head of the Department of Zoology and occupied this position with much credit and reputation until his untimely death.

His D.Sc. thesis was divided into two parts which have been published in the *Philosophical Transactions of the Royal Society of London* in 1930 and 1931. He continued his researches on the development of the vertebral column with a band of ardent students and scholars, and a series of papers were published on this subject in various scientific journals in India and abroad. His contributions to this field covered most of the chordate groups and he postulated the hypothesis of a common structural basis for the development and evolution of the vertebral column in the chordates. He set forth clearly that the formation of the centrum follows the same general plan in all the chordates in contradistinction to views held by earlier workers, some of whom even proposed a classification of the vertebral column according to different modes of its formation. Mookerjee put forward an ingenious explanation as to the causes of the origin of the four different types of vertebrae by attributing them to the various types of movements of the embryos at the time when the migratory connective tissue cells enter actively the intervertebral zones of perichordal tube. Furthermore, to elaborate this thesis he asserted that the characteristic changes that are met with in a more rigid and non-plastic organ like the vertebral column are in large part subject to stress and strain brought about by habit and environment. By this he lent a good deal of support to his late Professor MacBride's dictum, 'Habit is the real driving force of evolution'. In a very recent paper he showed that so-called notochord of the Balanoglossid, *Ptychodera*, is indeed the dorsal nerve chord with a neurocoel, while its nuchal skeleton is in reality the notochord, and this had helped him to accent the view of the chordate affinities of Balanoglossids—a subject of thrilling interest to students of zoology.

Besides the above line of work Mookerjee initiated fishery researches in the University by establishing a fishery section in his department. He worked out the life history of a number of freshwater fishes of Bengal, chiefly carps, in collaboration with a band of able research students. His key to the identification of the fry of carps will remain as a landmark of his studies in the field of fishery researches. His contributions to this aspect of the studies of fish and fishery science are no less important than those to his favourite subject of embryology.

In Bengal zoology had been a neglected subject for a long time. On being elevated to the professorial chair, Mookerjee espoused in right earnest the cause of popularizing zoology in Bengal. He was in great measure instrumental in introducing Biology in the Intermediate curricula which is now being taught in a large number of colleges of Bengal affiliated to the University. But his interest did not stop there. He introduced Fishery and Entomology as special subjects in the postgraduate course of studies. He was thus largely responsible for supplying such personnel as needed by the West Bengal Fishery, Agriculture and Sericulture departments for research and development as well as for the benefit of the country.

As the head of the department it was his earnest endeavour to encourage by all the means in his power independent research work by all his colleagues and their students. Many young graduates ambitious of embarking upon a research career received not only his inspiration and encouragement, but also all necessary laboratory facilities.

Professor Mookerjee presided over the zoology section of the Indian Science Congress session at Indore in 1936 He was elected a Fellow of the National Institute of Sciences of India in 1939 and was its Additional Vice-President (1954) and Council member (1955). He was founder President of the erstwhile Zoological Society of Bengal and now The Zoological Society, Calcutta, and continued in this office till death. Moreover. he was associated with various learned bodies and connected with different Indian Universities in various capacities Before his death he was associated with the Asiatic Society as its Biological Secretary of the Natural History Section and Council member. In his own *Alma Mater* he was an important member of the Syndicate and the Senate and also served on various other bodies of the University to look after the welfare not merely of his own department but also of the University in general.

He was tall and handsome and had a most charming and attractive personality. He was greatly loved by his colleagues, students and office staff. Whoever came in contact with him knew his loving heart full of kindness and generosity. A silent and reserved man of quiet disposition, shy nature and sweet temperament, nevertheless he possessed a devastating wit and a strong common sense which he often exercised in his immediate congenial company.

During the past decade his health deteriorated by and large, yet he continued in his many and varied academic activities even to the last day of his life. He collapsed and died as a result of a stroke in the evening of August 18, 1955, at his own residence after returning from some important meetings in the University. His death leaves a void in the life of his department and in the scientific circle which will remain unfilled for a long time. He will be mourned by a host of his friends and admirers, colleagues and pupils.

He is survived by his ailing and aged mother, a brother, and wife with children—one son and three daughters.

J. L. Bhaduri

Professor Meghnad Saha

(October 6. 1893—February 16, 1956)

Meghnad Saha was born on October 6, 1893 at Sheoratala in the Dacca District of East Bengal ; he came from a family of small shopkeeping business men and was the fifth child of a family of eight. In his early days he had to pursue his education under great difficulties, which were not made easier when yound Meghnad came to Dacca for his school education and was drawn into the antipartition agitation movement of 1905. After passing his Intermediate examination from the Dacca College, standing third in order of merit, he came to Calcutta and joined the Presidency College in 1911. He had a brilliant batch of contemporaries, amongst whom were men like S. N. Bose, J. C. Ghosh, J. N. Mukherjee, N. R Sen. The members of this group appeared for their practical examination in pass B.Sc. at a centre to which the writer of this article had been appointed examiner by Sir Ashutosh Mukherjee, immediately after his return from England early in 1913. It was only much later that he realized the brilliant group of students he had examined. Both Saha and S. N. Bose took Applied Mathematics for their M.Sc. studies. After passing his M.Sc., Saha took up seriously the study of Theoretical Physics and Applied Mathematics. One of his early publication was a joint paper with S. N. Bose on a new equation of state ; these authors also collaborated in bringing out a translation of several papers of Einstein on the special and general relativity.

After the foundation of the University College of Science in 1916, both Saha and S. N. Bose were appointed lecturers in the Applied Mathematics Department from which both of them were later transferred to the Physics Department. A series of papers published by Saha between 1916 and 1918 qualified him for the award of the D.Sc. degree of the Calcutta University. Saha now became increasingly interested in the problem of the distribution of spectral lines in the solar and stellar atmospheres. One of his early papers sent to the Astrophysical Journal on "Selective Radiation Pressure" was not published; a shorter account which appeared in Nature, was later developed at great length by Prof. E. A. Milne (M. N. R. A. S. Vol. 84); in this paper due acknowledgment was made to the ideas previously developed by Saha.

From this time on, Saha in a series of papers developed his well known theory of thermal ionization in vapours as functions of temperature and pressure, of which the important ones were 'Ionization in the Solar Chromosphere' (Phil. Mags. **40**, 1920) and 'On a physical Theory of Stellar Spectra' (Proc. Roy. Sec. A, **99**, 135, 1921). The fundamental importance of these communications was at once recognized and all subsequent work on stellar atmosphere has been based on it, either directly or indirectly. The paper provided a new method of attack and opened the way to the solution of new probiems that had been puzzling the astrophysicists. In recognition of his fundamental work on thermal ionization Saha was elected a Fellow of the Royal Society in 1927 when he was only 34 years old.

After sending his first paper on thermal ionization for publication, Saha visited Europe on a study trip in September 1919; he returned home in March 1921, on being appointed Khaira Professor of Physics. In 1923 when offered a chair of Physics in the newly established Allahabad University, Saha decided to accept it with the expectation that he would find greater scope there for experimental work and for building up a research school. Though he could not obtain enough funds to build up a well equipped experimental laboratory, where he could verify some of the implications of his theory under laboratory conditions, Saha was able to attract a group of brilliant research workers; many of them collaborated with Saha while others, like Kothari and Toshniwal, struck out their own lines of investigations.

Saha remained in Allahabad till 1938, when a vaccancy caused by D.M. Bose's resignation of the Palit Chair of Physics of the Calcutta University, offered to Saha an opportunity of returning to Calcutta. During the second half of his period of stay in Allahabad, Saha began to get interested in the wider problems connected with scientific research and their social utilization. The problems which began now to interest Saha were the founding of scientific societies for individual sciences, and of the nature of academies, for communication and publication of scientific investigation, societies for the popularization of science and of its social applications. Amongst such activities may be mentioned the foundation of the U. P. Academy of Science in 1931 whose objectives, Rules, and Regulations were framed on the model of the Asiatic Society of Calcutta. In 1933 he came down to Calcutta with a draft set of Rules and Regulations etc. for a proposed Indian Physical Society, to provide similar facilities to the physicists in India, as was served by the Indian Chemical Society for the chemists. The Indian Association for the Cultivation of Science agreed to run their Indian Journal of Physics in collaboration with the Indian Physical Society.

As the number of regional Academics began to increase, Saha began to consider the feasibility of establishing an all India body of the status of an Academy, which "would serve as a liaison body between societies for various sciences, provincial academies, universities, services and private organizations for

scientific research." This subject was broached by Saha in his presidential address to the Bombay session of the Indian Science Congress in 1934. On his proposal a committee was formed to consider Saha's proposals, with Sir L. L. Fermor as Chairman, and M. N. Saha and S. P. Agharkar as secretaries. In 1935 the National Institute of Sciences of India was inaugurated in Calcutta, which remained its headquarters till 1944-45, when it was transferred to New Delhi. Some of the functions for this all India Body as envisaged by Saha, like the formation of National Research Committees on which the Academies should have fair representations and which should undertake and promote enquiries regarding problems of national welfare, etc. have not been fully realized.

During 1935 two other activities brought Saha again to Calcutta. One was the foundation of the Indian Science News Association with the journal 'Science and Culture' published monthly as its principal organ. For many years this journal served as a medium for expounding Saha's views on problems of national development, including his schemes for national planning, development of scientific and industrial research, multi river valley projects, power development. Many of the schemes advocated by Saha have been adopted by the Government of India, though not always in a form as considered desirable by him.

After Sir C. V. Raman gave up his research in the laboratories of Indian Association for the Cultivation of Science in 1932, to take up the post of Director, Indian Institute of Science, Bangalore, the management of the affairs of the Association caused a great deal of misgivings amongst many of the Association's well wishers. The initiative for introducing a fresh committee of management was taken jointly by M. N. Saha and the late Syamaprosad Mukherjee. This intervention by Saha into the affairs of the Association brought in a train of developments which we shall consider later.

All these developments whose centre of activity was Calcutta, probably made Saha feel that his future field of activity lay in Calcutta. Consequently when the post of Palit Professor of Physics fell vacant in 1938, Saha accepted an invitation of the Calcutta University to occupy the Chair. Saha returned to Calcutta after fifteen years of absence. His two main scientific achievements after his return were the reorganization and expansion of the research activities of the Indian Association for the Cultivation of Science, and the founding and organization of the Institute of Nuclear Physics.

During the period 1944-50 Saha successively occupied the post of Secretary, Vice-President, and President of the Indian Association for the Cultivation of Science. He negotiated the sale to the Government of West Bengal, of the old premises of the Association at 210 Bowbazar Street, and with the sale proceeds and with grants received from the Central and the Bengal Governments, ten acres of land were purchased at Jadavpur on which the new laboratories of the Association were erected. The recurring grant from the Central Government was increased from Rs. 20,000/- to over Rs. 5 lakhs per annum. This enabled Saha to open new departments of research, one of the most important of which is the laboratory for high polymer investigations. In 1952 on the initiative of Dr. S. S. Bhatnagar a whole time post of Director was created at the Association, and the choice of Dr. Saha for the post was universally welcomed.

Saha returned to Calcutta at a time when the development of nuclear science had entered a new phase with the discovery of nuclear fission by Hahn and his fellow workers. From the beginning Saha became aware of the possibilities for harnessing of the released energy of fission. Step by step, against many discouragements, opposition, and paucity of funds, he began to carry out his plan of building

an Institute of Nuclear Physics under the auspices of the Calcutta University. He was helped by the receipt of a few donations and some grants from the Calcutta University, and he had to depend more and more on grants from the Central Government, which was meagre in the beginning. In April 1948 the foundation stone of the Institute was laid and it was formally opened in January 1950 by the late Irene Joliot Curie.

Saha had to struggle hard to obtain recognition and financial support from the Central Government. After a great deal of discussion it was finally agreed, that the Institute of Nuclear Physics should receive the status of an Ali India Body, to be jointly administered by nominees of the Calcutta University and of the Government of India. The new Governing Body began to function from July 1951.

In 1948 the Government of India decided to start an Atomic Energy Commission with headquarters at Bombay, and to centralize research, training, and development there. Saha was in continuous conflict with this official policy. His idea was that there should be more decentralization in the carrying out of fundamental research, and in the training of new personnel from graduate students, before the actual problem of reactor construction could be taken up. It was with this view he developed the Institute of Nuclear Physics, of which he was the honorary life Director.

At the time of laying of the foundation stone of the 'Students Hostel' of the Institute on January 1956, Dr. Saha was able to announce that he had received an intimation from the Department of Atomic Energy, Government of India, sanctioning adequate grants for financing the Institute's Second Five Year Development Plan. The grant provided by the Government was expected to be so large compared to what the Calcutta University could provide, that it was likely that the control and administration of the Nuclear Physics Institute would ultimately pass into the hands of the Department of Atomic Energy. This contingency greatly disturbed Saha. Inspite of the poor state of his health, and against the advice of his physicians and relatives, Saha decided to go to Delhi in February last, to have a clarification of the situation after discussion with the Government of India. It is known that on the morning of February 16, 1956 on his way to the office of the Planning Commission he collapsed.

Dr. Saha was a dynamic personality. His pioneering activities in the field of National Planning, River Valley Training, Education, Nuclear Energy, etc. entitled, in his opinion, to have his views seriously considered by the authorities. He felt that he could only make these views effective by entering politics. For this reason he entered the Lok Sabha in 1952; as an independent member without party attachment, he could not be as effective as he had expected to be.

At present when scientific research, carried out by governmental as well as by non-governmental agencies, are dependent almost entirely upon government grant, there is a noticeable absence of effective discussion and criticism, even by the leading non-official scientists, of government policy. Dr. Saha never lacked courage in expressing his dissident views on matters of Government policy, against all the imposing array of official authority marshalled against him. His courageous attitude calls for unstinted praise.

Kroeber has noted "that great men notoriously cluster in time and place, in Periclean Greece, in Augustan Rome, in the Italian Renaissance, and in Elizabethan England.....Great men can only appear while great patterns are in the shaping during the history of civilization. At other times native genius is wasted; it has nothing to take hold of". It is an interesting fact that most of the scientists who are associated with revolutionizing the productivity of this country by application of

scientific method and of technology, are in their sixties ; to mention a few of them, S. S. Bhatnagar, J. C. Ghosh, P. C. Mahalanobis and M N. Saha (not to speak of the Prime Minister, who graduated in Science from the Cambridge University). Their adolescence occured during the swadeshi movement and they were influenced by the examples of J. C. Bose and P. C. Ray, to take up science.

Einstein once classified the types of men who have helped to build up the temple of Science. Foremost amongst them are the single minded devotees ; as the occasion was the celebration of his 60th birthday, Planck was cited as an example; we should include also Einstein himself and Bohr. But the majority of the temple builders belong to the class of men of great all round abilities, who according to Einstein, take up science as others take up sports, as an outlet for their abounding energies. Some of our scientists in this age of technological reconstruction of India, are finding a wider scope for their all round abliities. Their opportunity came when the future pattern of Indian civilization began to take shape just before and during the Second World War leading to Indian independence. Dr. Saha belonged to this group. He had a wide range of interest which included Indian archaeology and ancient history. He had in addition an extraordinary ability for mastering details, for planning and executing the plans ; this age of transition gave him ample scope. He had what the Greeks call a daemonic temperament; he was never satisfied with what he had already achieved, but was always seeking new fields of activity, and their choice was guided by his passion for serving his country. He never spared himself and this enabled him to obtain the utmost from those who worked with him. As had been mentioned before he had his full measure of courage and could not be cowed by show of authority.

D. M. Bose

Professor P. C. Mahanti

By the death of P. C. Mahanti on 27th March, 1956, at the early age of fiftythree, applied physics has lost one of its great leaders in the research field and the Department of Applied Physics, University College of Science and Technology, Calcutta University, a Professor and Head of the Department who has considerably widened its scope and activities. Mahanti's connection with the Department of Applied Physics, Calcutta University, is as old as the Department itself. When the department was started in 1925 as a step towards the realisation of the objects of an Endowment made by the late Sir Rash Behari Ghose, Mahanti joined the department as a Sir Rash Behari Ghose Research Scholar under Dr. P. N. Ghosh who was appointed the first Ghose Professor of Applied Physics. Since then he served the department with unparalleled devotion till the last day of his life. He served it as Assistant Lecturer and Lecturer, and finally in 1947 he was appointed Ghose Professor and Head of the Department.

Born in a very respectable family in Orissa he received his early education there. He entered the St. Xavier's College, Calcutta, and subsequently obtained his M.Sc. degree in Physics from Calcutta University in 1925.

Mahanti's research work covers a very wide field. In the initial stages he started work on the dielectric properties of materials. In 1928 when Prof. P. N. Ghosh wanted to build a spectoscopic laboratory for the department, Mahanti joined him in the work and the spectroscopic laboratory that was developed is still one of the best of its kind in Asia. His valuable work on molecular spectroscopy with special reference to diatomic oxide and halide molecules led to a D.Sc. degree of the University of Calcutta. He also worked on infrared absorption spectra. In

recent years he directed his attention to investigations of the insulating properties of Indian Mica and vegetable oils. His scientific contributions are embodied in large number of papers, published both in foreign and Indian journals.

In 1946 he went to U.K. with a Ghose Travelling Fellowship and worked in the National Physical Laboratory on electrical instruments and standardisation. After return, he gradually built up an Electrical Measurement and standardisation laboratory which is the first and foremost of its kind in India.

Mahanti was admitted to many learned societies. He was a Fellow of the National Institute of Sciences of India, Fellow of the Institute of Physics (London), Member of the American Institute of Electrical Engineers, and Member of the British Standards Institution. He was appointed Adhar Chandra Mukherji Lecturer of the Calcutta University for 1956, but could not finish the work due to sudden death.

Expansion of technological education for the industrialisation of the country was a theme with which he constantly occupied his mind for the last few years. The creation of a new faculty of Technology in the Calcutta University incorporating the three departments of Applied Physics, Radio Physics and Electronics and Applied Chemistry and the adoption of a three year M.Sc. (Tech.) course in these subjects owe much to his efforts. The new sections of Applied Heat and Thermodynamics, Applied Mechanics and Strength of Materials and Applied Optics which have been added to the department with grants from the Government of India bear ample testimony to his organising ability.

Quiet, kindly, meticulously honest in scientific and personal relations, he endeared himself to a large circle of students and scientific colleagues.

He has left behind a minor son and three minor daughters besides his widow.

U. P. Basu

Dr. T. Vijayaraghavan

The Late Dr. T. Vijayaraghavan was born on the 30th November, 1902, and passed away on the 20th April, 1955 after an attack of angina pectoris. He was the only son of Tiruvenkatachariar, a Vaishnavaite scholar and religious leader of great repute, still affectionately remembered by friends and followers as Tirukkannapuram Pattappaswami.

Vijayaraghavan had his schooling in The Hindu Theological High School, Madras (1910-1918), and then continued his studies in the same place at the Pachaiyappa's College (1918-1920) and the Presidency College (1920-1924). It was in the latter college that he came into contact with Prof. K. Ananda Rau who laid the foundation for his future mathematical career. In 1925 he was selected by the Madras University to do research under G. H. Hardy then Savalian Professor of Geometry at Oxford. He was at Oxford University from 1925 to 1928 and, at the end of the period, received the D. Phill degree of that University.

After returning to India Vijayaraghavan served successively in the Universities of Annamalai (1929-30), Aligarh (1930-3') and Dacca (1931-46). He then accepted the post of Head of the Department of Mathematics at Andhra University where

he remained till 1949. From 1950 till his death he was Director of the Ramanujan Institute of Mathematics and, during the latter half of this period he was occupying a chair in mathematics endowed by the Ministry of Education of the Government of India.

Vijayaraghavan was a mathematician of international reputation. He was the only Indian to be invited by the American Mathematical Society as Visiting Lecturer (1936). He was in the U.S.A. for a second time in 1952 and spent a part of the year at Chicago University as Visiting Professor. His main contributions to mathematics are in the field of the Theory of Numbers, and that branch of classical Analysis known as Divergent Series. Typical of the former class of contributions are his papers 'On the fractional parts of the powers of a number' contributed to the journals of the London and the Indian Mathematical Societies and the Proceedings of the Cambridge Philosophical Society ; and the most significant of the latter class of contributions is a 'Tauberian' technique embodied in a theorem which goes under his name in Hardy's *Divergent Series*. Mention may also be made here of his contribution in a somewhat different direction, namely, his disproof, by a counter-example, of a famous conjecture of Borel concerning the order of the rate of increase of real and continuous functions which satisfy algebraic differential equations of the second or higher order.

Vijayaraghavan was a member of various Indian and foreign learned Societies including the London Mathematical Society and the Americal Mathematical Society. He was one of the Secretaries of the Indian Mathematical Society for some time. He was President of the Indian Mathematical Society for two years (1951, 1952). Just before his death he was engrossed in plans for making the Ramanujan Institute a centre of mathematical learning in India.

RAM BEHARI

APPENDIX V

List of papers read at General Meetings 1955-56

27th May, 1955 (*Gulmarg*)

1. Micro-structure of Coals from the Hutar Coalfield—by P.N. Ganju (communicated by Dr. D. N. Wadia).
2. Internal Ballistics of H/L Gun Using Propellant of any shape—by S. P. Aggarwal (communicated by Dr. R. S. Varma).
3. Some observations on plants of the South Indian hilltops and their distribution—by Basheer Ahmed Razi (communicated by Prof. B. R. Seshachar).
4. On the Lamb Shift and other Radiative Effects-III—by Inderjit Singh (communicated by Dr. F. C. Auluck).
5. Effect of E. M. Radiation on Lamb Shift-II—by Inderjit Singh (communicated by Dr. F. C. Auluck).
6. Observations on the Ionic Composition of Blue-Green Algæ growing in Saline Lagoons—by V. Krishna Pillai (communicated by Dr. N. K. Panikkar).
7. Flow of a compressible fluid around a Corner—by M. Ray (communicated by Prof. N. R. Sen).
8. Quantum Mechanical Calculation on the Re-Activity of Azoles and Azines—by Sadhan Basu (communicated by Dr. P. B. Sarkar).
9. Differential Thermal Analysis of Na_2SO_4—by D. R. Das Gupta (communicated by Dr. K. Banerjee).
10. Rotational Analysis of the Columbium Oxide Bands—by K. Suryanarayana Rao (Communicated by Dr. K. Rangadhama Rao).
11. Further investigations on Columbium Oxide Bands—by K. Suryanarayana Rao (communicated by Dr. K. Rangadhama Rao).
12. Energy Levels of PXII—by Ali M. Naqvi and S. P. Talwar (communicated by Dr. D. S. Kothari).
13. The identification of Radio Stars—by Ali M. Naqvi and J. N. Tandon (communicated by Dr. D. S. Kothari).
14. Estimate of the Optical Thickness of a Spherically Symmetric, Non-conservative scattering Atmosphere—by K. K. Sen (communicated by Prof. N. R. Sen).
15. X-ray Study of Nettle Fibres—by D. M. Chackraburtty (communicated by Dr. K. Banerjee).
16. On the Radial Pulsations of an Infinite Cylinder with a magnetic field parallel to its axis—by K. P. Chopra and S. P. Talwar (communicated by Dr. F. C. Auluck).
17. Semiquantitative evaluation of resonance integral and overlap integral for C-N Bond in S-Triazine—by Sadhan Basu (communicated by Dr. B. N. Ghosh).
18. Fermi's theory of multiple pi on production and the Zero point energy—by K. K. Singh (communicated by Dr. F. C. Auluck).

19. Notes on four deformed specimens of the Indian Carp *Labeo Rohito* (Hamilton)—by B. G. Kapur and H. L. Sarkar (communicated by Dr. S L. Hora).

5th August, 1955 (*Mysore*)

1. Contributions to the cytology of hymenomycetes. I, Cytological Studies in Marasmius Campenella Holtern—by S. Banerjee and N. Mukherjee (communicated by Dr. G. P. Majumdar).
2. An X-ray study of fluorenthene crystal—by S. C. Chakrabarty (communicated by Dr. K. Banerjee).
3. Partition into distinct primes—by Hansraj Gupta.
4. Hausmannia indica sp. Nov. Gupta, a Dipteridaceous leaf from the Jurassic of Rajmahal Hills, Behar (India)—by K. M Gupta (communicated by Prof. P. Maheshwari).
5. Partitions into Primes—by O.P. Gupta and S. Luthra (communicated by Prof. F. C Auluck).
6. A preliminary review of the genera of the family Bagridæ (Pisces; Siluroidea)—by K. C. Jayaram (communicated by Dr. S. L. Hora).
7. Paper chromatographic studies of jute holocellulose—by D. B Das, P. K. Roy Chaudhuri and J. F. Wareham (communicated by Dr. J. K. Chowdhury).
8. On ballistics of composite charges for power law of burning taking account of different gammas—by S. P. Aggarwal (communicated by Dr. R. S. Varma).
9. Internal ballistics for power law of burning with most general form function—by S. P. Aggarwal (communicated by Dr. R. S. Varma).
10. Internal ballistics for composite charge—by S. P. Aggarwal (communicated by Dr. R. S. Varma).
11. Latent heat of evaporation of liquid He^4 and liquid He^3—by S. K. Trikha and V. S. Nanda (communicated by Prof. D. S. Kothari).
12. A note on the (relativistic) statistical mechanics of an assembly in mass-motion—by R. K. Pathria (communicated by Prof. D. S. Kothari).
13. A note on the oscillations of an Infinite Cylinder subject to radial magnetic field—by J. N. Tandon (communicated by Prof. F.C. Auluck).
14. On the radial adiabatic pulsations of an Infinite Cylinder in the presence of magnetic field parallel to its axis-II—by K. P. Chopra (communicated by Prof. D. S. Kothari).
15. The Gametophyte of *Aleuritopteris grisea* (Blanford) Comb. nov—by G. Panigrahi (communicated by Dr. I. Banerji).
16. Mo calculation on the Absorption spectra of Tetraphenyl porphine—by Sadhan Basu (communicated by Dr. B. N. Ghosh).
17. Effect of catalytic agents on the Phase Transformation of Gothite—by D. R. Das Gupta (communicated by Dr. K. Banerjee).

7th October, 1955 (*Delhi*)

1. Studies on growth principles in liver. I. Separation of Cyano-cobalamine from other growth factors and its estimation by different methods —by S.K. Dutt (communicated by Dr. U.P. Basu).

2. Tendrills of the Cucurbitaceae : Their morphological nature on anatomical evidence—by P. Sensarma (communicated by Dr. G.P.Majumdar).
3. The stipules, pulvinus and stiples of Dolichos Lablab L. and their vascular supply— by A. Kar (communicated by Dr. G. P. Majumdar).
4. Studies on the mechanism of diabetogenic action of Alloxan—by G. Bhattacharya (communicated by Dr. B. Mukerji).
5. Photoperiodism in Rice. VII. Effects of short photoperiod of four varieties of early-winter rice—by G. Misra (communicated by Prof. I. Banerji).
6. Contribution to our knowledge of Indian freshwater plants. Part 2. On some aspects of the habit, structure, life-history and auteology of *Limnanthemum oristatum* Griseb and *Limnanthemum indicum* Thw—by Eva Mitra (communicated by Dr. B. S. Bhimachar).
7. An essentially statistical approach to thermodynamic problem. II—by M. Datta (communicated by Prof. S. N. Bose).
8. The problem of motion in general relativity—by V. V. Narlikar and B. R. Rao.
9. The equations of motion of particles in the unified field theory of Einstein (1953)—by V.V. Narlikar and B. R. Rao.
10. A theory of strong electrolytes in solution based on a new statistics. II. Equilibrium phenomena—Activity co-efficients—by M. Sengupta (communicated by Prof. S. N. Bose).
11. On a problem of G. Kurepa—by K. Padmavally (communicated by Dr. T. Vijayaraghavan).
12. Some properties of generalised Laplace Transform—by C. B. Rathie (communicated by Dr. R. S. Varma).
13. Embryological studies in Compositae. II. Helenieae—by J. Venkateswarlu and H. Maheshwari Devi (communicated by Prof. P. Maheshwari).
14. Thermal experiments with the Vanadium-bearing Titani-ferrous magnetites of Mayurbhanj—A study of the different types of crystallographic intergrowths—by Supriya Roy (communicated by Dr. K. Jacob).

1st January, 1956 (*Agra*)

1. Note on the Jet Formation by explosives with lined Trumpet Cavities—by Sampooran Singh (communicated by Prof. D. S. Kothari).
2. On Impact sensitivity and the estimation of pressures in explosion phenomena—by M. P. Murgai (communicated by Prof. D. S. Kothari).
3. The equivalent charge method in the general theory of composite charges—by J. N. Kapur (communicated by P. L. Bhatnagar).
4. Trignometrical series method in solving the problem of softening and degree of polarisation of radiation in an elecron atmosphere, scattering according to Rayleigh's law and involving bompton change in wavelength—by K. K. Sen (communicated by Prof. N. R. Sen).
5. Waves produced by a pressure system moving with an acceleration over the surface of deep water—by R. N. Bhattacharya (communicated by Prof. N. R. Sen).

6. Internal Ballistics of Composite Charge when they burn according to the Geometric form functions for spheres—by V. B. Tawakley (communicated by Dr. R. S. Varma).
7. Uniqueness of Maximum pressure in the General Theory of Composite charges—by J. N. Kapur (communicated by Dr. P. L. Bhatnagar).
8. Experimental and Ecological Studies on the Adaptation of *Mytilus Eulis L.*, to salinity fluctuations—by M. P. Motwani (communicated by Dr B. S. Bhimachar).
9. Taxonomic Status of the Chinese Catfish Family Cranoglanididae, Myers 1931—by K. C. Jayaram (communicated by Dr. S. L. Hora).
10. The solutions of certain Hypergeometric Equations of three variables—by Shanti Saran (communicated by Prof. N. R. Sen).
11. A contribution to the Embryology of *Vateria Indica Linn*—by A. Nagaraja Rao (communicated by Prof. P. Maheshwari).
12. On a type of tensor in a Riemannian space—by M. C. Chaki (communicated by Prof. R. N. Sen).
13. A question of J. M. Whittaker—by T. Vijayaraghavan and K. Padmavally.
14. Determination of absolute rate of β-disintegration from a P^{32}-source using the 4π-counter technique—by N. K. Saha and Narendra Nath (communicated by Dr. R. C. Majumdar).
15. Morphology of Pallavicinia with reference to its species problem and individuality of Pallaviciniaceae—by P. Kachroo (communicated by Dr. I. Banerji).
16. Morphological and cytological study of the gametogenesis—by K. M. Safeeullah and M. J. Thirumalachar (communicated by Dr. R. S. Vasudeva).
17. Mixed nucleon-meson cascades in finite absorbers—by S. Ganguly (communicated by Prof. S. K. Chakrabarty).
18. Analysis of Chromosomes in two genera of Microphylidae (Amphibia: Anura)—by A. R. Kasturi Bai (communicated by Prof. B.R. Seshachar).
19. On the orthogonal subset Appell polynomials—by Vikramaditya Singh (communicated by Dr. R. S. Varma).
20. The heart and its conducting system in the common Indian Fowl—by Ravi Prakash (communicated by Dr. K. N. Bagchi).
21. On the change in shape of a Gravitating Fluid Sphere in a uniform external electric field—by S. P. Talwar and S. S. Abbi (communicated by Prof. F. C. Auluck).
22. Further considerations regarding He^3-He^4 Mixtures—by S. M. Bhagat (communicated by Prof. F. C. Auluck).
23. Internal Ballistics of Composite Charges for power law of burning—by J. N. Kapur (communicated by Dr. P. L. Bhatnagar).
24. Contribution of the electronic repulsion to the Energy of the Molecular States for Furan, Pyrrole and Thiophene—by V. Santhamma (communicated by Prof. K. Rangadhama Rao).
25. Stochastic processes associated with integrals of a class of Random Functions—by P. M. Mathews and S. K. Srinivasan (communicated by Dr. T. Vijayaraghavan).

26. Phase transformation of Borax during thermal treatment—by D. R. Das Gupta and B. K. Banerjee (communicated by Dr. K. Banerjee).

2nd March, 1956 (*Delhi*)

1. An absolute experimental test of the molecular weight distribution equtions of high polymyers—by Satya Ranjan Chatterjee and Keshab Chandra Majumdar (communicated by Dr. S. R. Palit).
2. Note on non-simple K*-spaces—by R. N. Sen.
3. The geological structure of the Himalayas compared with the Alps—by Arnold Heim (communicated by Dr. D. N. Wadia).
4. Vibration of circular cylinder of transversely isotropic material—by J. G. Chakravorty (communicated by Dr. S. Ghosh).
5. A note on the radiative corrections to Compton scattering—by T. Roy (communicated by Prof. S. N. Bose).
6. The near ultraviolet absorption spectrum of 2-Furfuraldehyde—by V. Santhamma (communicated by Dr. K. Rangadhama Rao).
7. Orthogonal ennuples in a Kaehler manifold—by Miss Gita Haldar and Ram Behari.

APPENDIX VI

International Unions and Conferences

With the growth of science and technology in Asia and the Far East, it is most desirable that scientists in these countries participate more fully in international scientific activities. A development of interest to international co-operation in science is the growing number of international scientific and technical conferences which are being held in Asia and the Far East. A list of such conferences held in South Asia in 1955-56 is given below : –

1955	
October 2	International Seminar on the Development of Public Libraries in Asia, New Delhi.
December 5-11	International Rice Commission (FAO) Sixth Meeting of Working Party on Rice Breeding, Penang, Malaya.
	Fifth Meeting of Working Party on Fertilizers.
1956	
January 27-February 4	9th Congress of the International Society of Sugarcane Technologists, New Delhi.
February 14-22	International Mathematical Union Colloquium on Zeta functions, Bombay.
February 14-22	South Asian Conference on Mathematical Education, Bombay.
March 19-24	Preparatory Meeting of Experts in Humid Tropics. Research and Symposium on Methods of Tropical Vegetation, Ceylon.
May 14-26	Regional Seminar on School Curricula (convened by the Pakistan Government and subsidized by Unesco), Karachi.
May	Regional Meeting of Experts on the production of reading material for new literates, Lahore.

The names of the Ordinary Fellows of the Institute who attended various International Conferences are shown below :—

12th General Assembly of the International Union of Biological Sciences (Rome)	April	1955	Dr. R. Misra
International Biometric Conference Campinas—Brazil	July	1955	Dr. C. R. Rao
International Colloquium of Factor Analysis (Paris)	July	1955	Dr. C. R. Rao
International Conference as W.H. Assembly delegate (Mexico)	May	1955	Dr. B. B. Dikshit

International Statistical Conference (Rio de Janeiro)	June	1955	Prof. K. B. Madhava Dr. B. Ramamurti Dr. C R. Rao
All Pakistan Science Conference (Dacca)	Jan'	1956	Dr. H. Santapau
Conference on Peaceful uses of Atomic Energy (Moscow)	July	1955	Dr. R. K. Pal Dr. V. R. Khanolkar
International meeting on desert locust Control organised by F.A.O. of U.N. (Rome)	April	1955	Dr. K. B. Lal
Scientific and technical delegation on study tour to U.S.S.R.	July	1955	Dr. K. B. Lal
Meeting of Specialists called by F.A.O. to advise on Plant Protection agreement for South East Asia and Pacific Region (Rome)	Sept'	1955	Dr. K. B. Lal
International Conference of Atomic Energy (London)	Aug'	1955	Dr. T. R. Seshadri
International Conference of the UNESCO on "Tropical Vegetation" (Kandy, Ceylon)	March	1956	Dr. F. R. Bharucha Dr. R. Misra
Commonwealth Survey Officers' Conference (Cambridge)	Aug'	1955	Dr. B. L. Gulatee
9th General Assembly of the International Astronomical Union (Dublin)			Dr. A. K. Das
Conference on Physics of the Sun Stars and Nebulae (Crimea, U.S.S.R.)			Dr. A. K. Das
International Congress of Biochemistry (Brussels)	Aug'	1955	Dr. B. C. Guha
International Conference on Enzymes (Oxford)	Aug'	1955	Dr. B. C. Guha
W.H.O. Conference (Ceylon)	Aug'	1955	Dr. N. K. Bose
2nd Congress of World Meteorological Organisation	April-May	1955	Sri S. Basu
International Symposium on "Recent advances in Chemistry in Naturally occurring Pyrones and related Compounds (Dublin)	July	1955	Dr. K. Venkataraman
International Association of Hydraulic Structures Research (Hague)			Dr. H. L. Uppal

International Symposium on Cavitation (Teddings)			Dr. H.L. Uppal
International Conference of the Peaceful uses of Atomic Energy (Geneva)	Aug'	1955	Dr. S. S. Sokhey Dr. K. S. Krishnan Dr. V. R. Khalolkar Dr. H. J. Bhabha (President)
British Association for the Advancement of Science (Annual Meeting) (Bristol)			Dr. K. R. Ramanathan Dr. U. P. Basu Dr. T. R. Seshadri
International Pharmaceutical Congress (London)	Sept'	1955	Dr. U. P. Basu
General Assembly of International Council of Scientific Unions (Oslo)	Aug'	1955	Dr. K. R. Ramanathan
International Union of Geodesy and Geophysics (I. U. G.G.)			Dr. K. R. Ramanathan
Special Committee for International Geophysical Year (Bruxelles)	Sept'	1955	Dr. K. R. Ramanathan
International Conference on Solar Eclipses organised by I.C.S.U. (London)	Aug'	1955	Dr. K. R. Ramanathan
Symposium on Radio astronomy organised by International Astronomical Union (Manchester)	Aug'	1955	Dr. A. K. Das Dr. K. R. Ramanathan
International Symposium on Favonoid Pigments (Dublin)	Sept'	1955	Dr. T. R. Seshadri
International Congress of Chemistry (Zurich)	July	1955	Dr. T. R. Seshadri Dr. B. C. Guha Dr. S. R. Palit Dr. K. Venkataraman
Study Group on cell growth C. I.O. M.S. (Paris)	Dec'	1955	Dr. V. R. Khanolkar
International Colloquium on Zeta Functions (Bombay)	Feb'	1956	Dr. K. Chandrasekharan
South Asian Conference on Mathematical Education (Bombay)	Feb'	1956	Dr. K. Chandrasekharan (organised and presided) Dr H. Gupta Dr. C. Racine Dr. B. N. Prasad
Executive Committee meetings of International Mathematical Union (Paris)	May	1966	Dr. K. Chandrasekharan

Visited China as member of delegation of medical experts to deliver lectures	June-July	1955	Lt.-Col. Jaswant Singh
Visited Indonesia on behalf of WHO	July-Aug'	1955	Lt.-Col. Jaswant Singh
On visit of Universities, Technical Institute and Research Stations in U.S.A. and Canada	May-July	1955	Dr. A.N. Khosla
Represented Secretariat of Indo-Pacific Fisheries Council at 21st Meeting of I.P.F.C. Executive Committee (Tokyo)	Sept'	1955	Dr. T. J. Job
2nd Session of I.P.F.C. Hilsa Sub-Committee (Calcutta)	July	1955	Dr. T. J. Job
At the invitation of U.S.S.R. Academy of Sciences visited some Laboratories in U.S.S.R.			Dr. K. S. Krishnan
Selected Foreign Associate of the National Academy of Science Washington.			Dr. K. S. Krishnan
Elected Vice-President of the I.C.S.U.			Dr. K. S. Krishnan
Invited as a special guest to the British Association for advancement of Science (Bristol)	Aug'	1955	Dr. T. R. Seshadri
Invited by French Ministry of Education to the International Symposinm on Chemistry and Biology of Oxygen Ring Compounds (Lyons)	Aug'	1955	Dr. T. R. Seshadri
Deputation on foreign service under F.A.O. of U. N. for assignment to Philippines	May-July	1955	Dr. R. S. Vasudeva
Technical Expert by U.N.E.S.C.O. to Brazil Government	June June	1955-1956	Prof. C. Mahadevan
Invited by F.A.O. of U.N. to deliver lectures at Hyderabad	July-Aug'	1955	Dr. S. M. Sircar
U.N. Technical Conference on Conservation of living resources of the sea (Rome)	April-May	1955	Dr. B. N. Chopra Dr. N. K. Pannikar
Indo-Pacific Fisheries Council (Tokyo)	Sept'-Oct'	1955	Dr. T. J. Job
International Congress on Documentation of Applied Chemistry (London)	Nov'	1955	Dr. S. Krishna

APPENDIX VII

List of additions to the Library from 1-4-55 to 30-3-1956 arranged according to U.D.C. system of classification

0/3 General. Philosophy. Social Sciences

1. Li, Ching Chun. Population Genetics. Chicago. Univ. of Chicago Press. 1955. 271 p.
2. International Who's Who. (1955). London. Europa Press. 1082 p.
3. The Agricultural Resources of the World. New York. Prentice Hall. 1954. 258 p.
4. Neuman, Erich. The Great Mother. London. Routledge. 1955. 585 p.
5. Linton, Ralph. The tree of culture. Alfred A. Knoff. 1955.
6. Herskovits, Melville, J. Cultural Anthropology. Herskovits. 1955. 569 p.

5 Science (General)

1. Scientific Objectives : A selection from a series of lectures given at the Imperial College, London, 1949-51. London. Butterworth. 1952. 113 p.
2. Baitstell, George A. *ed.* and others. Science in Progress. Vol. IX. New Haven. Yale Univ. 1955. 343 p.
3. Sarton, George. The appreciation of ancient and medieval science during renaissance (1450 1600). Philadelphia. Univ. of Pennsylvania Press. 1955. 233 p.
4. The Royal Society. Year Book of the Royal Society. 1956. London. The Society. 351 p.
5. Crowther, J.G. Discoveries and inventions of the 20th century. London. Routledge. 1954. 432 p.
6. Waerdon, B.L. van Der. Science awakening. London. Noordhoff Ltd. 1954.

51 Mathematics. Mathematical Statistics

1. Paradine, C. G. and Rivett, B.H.P. Statistics for Technologist. New York. Van Nostrand. 1953. 215 p.
2. Wass, C.A.A. An introduction to electric analog computers. London. Pergamon Press. 1955. 237 p.
3. Rand Corporation. A million random digits. Illinois. Free Press Publishers. 1955. 200 p.
4. American Mathematical Society. Proceedings of the Symposia in Applied Mathematics. (Non-Linear Problems in Mechanics). The Society. 1949. 219 p.
5. American Mathematical Society. Proceedings of the Symposia in Applied Mathematics (Electro-Magnetic Theory). The Society. 1950. 91 p.

6. Higman, Bryan. Applied group-theoretic and matrix methods. Oxford. Clarendon Press. 1955. 454 p.
7. Hald, A. Statistical theory with engineering applications. N. York. Wiley. 1952. 783 p.
8. Ezkiel, Mordacai. Methods of correlation analysis. New York. Wiley. 1953. 531 p.
9. Cramer, H. The elements of Probability theory and some of its applications. New York. Wiley. 1955.
10. Kleene, Stephen Cole. Introduction to Mathematics. New York. N. Holland Pub. Co. 1952. 550 p.
11. Weber, Heinrick. *ed.* Bernard Rieman's gesammalt Mathematische Werke. London. Dover. Publications. 1953.
12. Neuman, John von. Mathematical Foundations of Quantum Mechanics. Princeton Univ. Press. 1955. 445 p.
13. Erdelyi, A. Higher transcendental functions. New York. McGraw Hill. 1955. 292 p.
14. Richards, R. K. Arithmetic operations in digital computers. New York. D. van Nostrand. 1955. 397 p.
15. American Fiat. Applied Mathematics. Part III. (American Fiat Review 1939-44). V. 5. New York. Leibiger. 1950. 171 p.
16. American Mathematical Society. Transactions of the Symposia on Applied Mathematics. N. York. Interscience. 1955, 216 p.
17. Resz, F. and Sz. Nagy, B. Functional Analysis. F. Ungar Pub. Co. 1955. 467 p.
18. Fisher, Sir Ronald A. Statistical Methods for research workers. London. Oliver and Boyd. 1954. 356 p.
19. Bochner, Solomon. Harmonic Analysis and theory of probability. Univ. of Calif. Press. 1955. 176 p.
20. Buseman, Herbert. The geometry of geodesics. N. York. Academic Press. 1955. 422 p.
21. Kaplan, Wilfred. Lectures on functions of a complex variable. Univ. of Michigan. 1955. 435 p.
22. Petrosky, J. G. Lectures on partial differential equations. N. York. Intersience. 1954. 268 p.
23. Hirschman, I. I. and Widder, D. V. The Convolution Transform. New Jersey. Princeton Univ. Press. 1955. 268 p.
24. Schlichting, Dr. Herman. Boundary Layer Theory. London. Pergamon Press. 1955. 311 p.

52 Astronomy

1. Pawsey, J. L. and Bracewell, R. N. Radio Astronomy. Oxford. Clarendon Press. 1955. 361 p.
2. Kaiser, T. R. *ed.* Meteors. London. Pergamon Press. 1955. 204 p.
3. Allen, C.W. Astrophysical quantities. London. Athlone Pres. 1955. 263 p.
4. Wilkins, H. P. and Moore, P. The Moon. London. Faber. 1955. 388 p.

5. Unsold, Dr. A. Physik der Sternatmosphere. Springer. 1955. 866 p.
6. Buseman, Herbert. The geometry of geodesics. N. Y. Academic Press. 1955. 422 p.

53 Physics

1. Pauli, W. *ed.* and others. Niels Bohr and the development of Physics. London. Pergamon Press. 1955. 195 p.
2. Crowther, J. G. Discoveries and inventions of the 20th century. London.
3. Wilson Jr., E. Bright and others. Molecular Vibrations. New York. McGraw Hill. 1955.
4. Hollaender, Alexander. Radiation Biology. Vol. II. New York. McGraw Hill. 1955.
5. Siegbahn, Kai. Beta and Gamma ray spectroscopy. London. N.Holland. 1955. 959 p.
6. Kaplan, Irving. Nuclear Physics. New York. Addison Wesley Pub. Corp. 1955. 609 p.
7 Hume-Rothery, W. Electrons, Atoms, Metals and Alloys. Cassier. 1955. 387 p.
8. Mandl, F. Quantum Mechanics. London. Butterworth. 1954. pp. 233.
9. Ward, G. N. Linearized theory of steady high speed flow. Camb. Univ. Press. 243 p.
10. Gorter, C. J. Progress in low temperature physics. North Holland Pub. Co 1955. 418 p.
11 Hueter, Theodor F. Sonics. Techniques for the use of sound in engineering and Science. New York. Wiley. 1955. 456 p.
12. Martin, Charles Noel. Tables de physique nuclaire. Paris. Gauthier Williams. 1954. 258 p.
13. Wax, Nelson. *ed.* and others. Selected papers on noise and stochastic processes. London. Dover. Pub. 1954. 337 p.
14. Peierls, R.E. Quantum theory of solids. Oxford. Clarendon Press. 1955. 229 p.
15. Bacon, G. E. Neutron diffraction. Oxford. Clarendon Press. 1955. 299 p.
16. Hulst, H. C. van de. *ed.* Gas dynamics of cosmic clouds;—a Symposium held at Cambridge Univ. Press. 1955. 247 p.
17. Feenburg, Eugene. Shell theory of nucleous. Princeton Univ. Press. 1954 751 p.
18. Buchdahl, H.A. Optical Abberation Co-fficients. Oxford Univ. Press. 1954. 336 p.
19. Wever, Ernest Glen and Lawrence, Myrle. Physiological Acoustics. Princeton Univ. Press. 1954. 454 p.
20 Paiser, H.S. *ed.* and others X ray diffraction in polycrystalline materials. Inst. of Physics. 1955. 725 p.
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46. Townes, C.H., and Schawlow, A.L. Microwave spectroscopy. New York. McGraw Hill. 1955. 698 p.
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2. Cottrell, T.L. The strength of chemical bonds. London. Butterworth. 1954, 310 p.
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13. Bovey, Frank A., and others. Emulsion polymerisation. New York. Interscience. 1955. 455 p.
14. Burnett, G.M. Mechanism of polymer reactions. New York. Interscience. 1954, 493 p.
15. Frank-Kamanetski, D. A. Diffusion and heat exchange in chemical kinetics. Princeton Univ. Press. 1955. 370 p.
16. American Fiat. Theoretic Organic Chemistry. Part I. (American Fiat Review, Vol. 34) 1939-46. New York. Leibiger. 1951. 218 p.
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18. Deul Jr , Harry J. The Lipids, their chemistry and biochemistry. New York. 1955. 919 p.
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20. Manske, R H.F. *ed.* The Alkaloids, Chemistry and Physiology. New York. Academic Press. 383 p.

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22. Mellor, J.W. Mellor's comprehensive treatise on inorganic and theoretical chemistry. Vol. II. Longmans. 1952. 894 p.
23. Lewis, B., Pease, R.N., and Taylor, H.S. *ed.* Combustion processes. Princeton Univ. Press. 1956. 662 p.
24. XIVth International Congress for Pure and Applied Chemistry, Zurich, 21-27. VII. 1955. Basel. Birkenhauser. 1955. 287 p.
25. Gamer, W.E. Chemistry of the Solid State. London. Butterworth. 1955. 417 p.
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7. Wells, A.F. The third dimension in chemistry. Oxford. Clarendon Press. 1956. pp. 139. plus 16 pl.

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2. Lunsburg, H. E. *ed.* and others. Advances in Geophysics. Vol. I. Academic Press. 1952. 362 p.
3. Stormer, Carl. The Polar Aurora. Oxford. Clarendon Press. 1955. pp. 404. 213 figs.
4. Buseman, Herbert. The geometry of Geodesics. New York. Academic Press. 1955. 422 p.
5. Nagata, Talpesi. Rock Magnetism. Tokyo. Maruzen Co.. Ltd. 1953. 225 plus. 2 p.
6. Physical Society. Physics of the Ionosphere. London. The Society. 1955. 406 p.
7. Perrie, D.W. Cloud Physics. Wiley. 1950. 119 p.
8. Illing, V. C. *ed.* The World's Olifields. The Eastern Hemisphere. Vol. VI (1) of Science of Petroleum Series. Oxford Univ. Press. 1953.

9. Longwell, Chester R. Introduction to Physical Geology. New York, Wiley. 1955.

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2. Harris, L. J. Vitamins in theory and practice. Camb. Univ. Press. 1955. 134 p.
3. Comer, C.L. Radio isotopes in Biology and Agriculture. New York. McGraw Hill. 1955. 9/22 plus 30 p.
4. Mellops, Robert C. Analytical Cytology. New York. MeGraw Hill. 1955. 92? plus. 30 p.
5. Goldschmidt, Richard B. Theoretical Genetics. Univ. of Calif. Press. 1955. 563 p.
6. Henderson, I F., Henderson, W.D., and Kenneth, J.H. A dictionary of scientific terms in Biology, Zoology, Physiology etc. London. Oliver and Boyd. 1953. 506 p.
7. Dikshit, S.K. An introduction to Archæology. Bombay. Asia Publ. Co. 1955. 452 p.
8. Hollaender, Alexander. Radiation Biology. Vol. II. McGraw Hill. 1955. 388 p.
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1. Salisbury, E.J. *ed.* and others. Index Kewnsis. Oxford. Clarendon Press. 1953. 273 p.
2. Paech, K., and Tracey M. V., *ed.* and others. Modern Methods of Plant Analysis. Vol. VIII. Springer Verlag. 1955. 761 p.
3. Collett, Sir Henry. Flora Simelensis. London. Thacker Spink 1902. 652 p.
4. Paech, K., and Tracey, M.V., *ed.* and others. Modern methoden of Pflanzenanalysis. Vol. IV. Springer Verlag. 766 p.
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12. Hill, A.W., Index Kewensis. Supplementum—V. (1911-1915). Oxford. 1921. 277 p.
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14. Hill, A.W., Index Kewensis. Supplementum—VII. (1921-1925). Oxford. 1929. 260 p.
15. Hill, A.W., Index Kewensis. Supplementum—VIII. (1926-1930). Oxford. 1933. 256 p.
16. Hill, A.W., Index Kewensis. Supplementum—IX. Oxford. 1938. 307 p.
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3. Stacy, Ralph W., and others. Essentials of Biological and Medical Physics. New York. McGraw Hill. 1955. 586 p.
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5. Manske, R.H.F. *ed.* The alkaloids,—chemistry and physiology. New York. Academic Press. 1955. 388 p.
6. Greenstein, J.P. and Haddow A. Advances in Cancer Research. Vol. II. New York. Academic Press. 1953. 590 p.
7. Pfeiffer, John. The Human Brain. London. Gollancz. 1955. 273 p.
8. Medical Annual Bristol. Wright Bros. 1955. 548 p.
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10. Collected Papers on Aviation Medicine. London. Butterworth. 1954. 123 p.
11. Burger, Alfred. Medicinal Chemistry. Vol. I. New York. Interscience. 1951. 577 p.
12. Burger, Alfred. Medicinal Chemistry. Vol. II. New York. Interscience. 578. 1084 p.
13. Burton, Alan C and Edholm, Otto G. Man in a cold environment. 1955. 273 p.
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16. Anthropometry and Human Engineering. London. Eutterworth. 1955. 123 p.

62. Engineering

1. Green, William and Pollingen, Gerald. The Aircraft of the World. London. Macdonald. 1953. 160 p.
2. Northrop Technical Division;—Staff of: Aircraft basic science. New York. McGraw Hill. 1953. 440 p.
3. Advisory Group for Aeronautical Research and Development. N.A.T.O. Selected combustion problems; fundamentals and aeronautical applications. Oxford. Clarendon Press. 1953. 273 p.
4. Zworykin, V.K., and Morton, G.A. Television, the electronics of image transmission, in colour and monochrome. New York. Wiley. 1954. 1037 p.
5. Smyth, Charles Phelps. Dielectric behaviour and structure. New York. McGraw Hill. 1955. 271 p.
6. Bettinger, M. Practical Electro-acoustics. New York. Chemical Pub. Co., 1955. 971 p.
7. Beeman, Donald. *ed.* Industrial Power Systems Handbook. McGraw Hill. 1955. 971 p.
8. Compressed Air and Gas Institute. Compressed air handbook. McGraw Hill. 1953. 440 p.
9. Loeb, Leonard B. Basic Processes of Gaseous Electronics. Univ. of Calif. Press 1955. 1012 p.
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11. Glassford, Glenn M. Fundamentals of television engineering. New York. McGraw Hill. 1955. 642 p.
12. Murphy, George M. *ed.* Production of Heavy Water. New York. McGraw Hill. 1955. 394 p.
13. Glasstone, S. Principles of Nuclear Reactor Engineering. New York. McGraw Hill. 1955.
14. Terman, Frederick E. Electronic radio engineering. New York. McGraw Hill. 1955. 1078 p.
15. Thomason, J. G. Linear Feedback Analysis. New York. Pergamon Press. 355 p.
16. Shapiro, Jacob. Principles of Halicopter Engineering. London. Temple Press. 1955. 433 p.
17. Crawford, Alan E. Ultrasonic Engineering. London. Butterworth. 1955. 344 p.
18. Baughman, Aviation Dictionary and reference book. Aero Pub. Co. 1951. 653 p.
19. Westinghouse Electrical Corporation. Industrial electronics reference book. New York. Wiley 1948. 680 p.
20. Hodge, James. Gas turbines, cycles and performances estimation. Butterworth. 1955. 329 p.
21. Greathouse, Glenn A. Deterioration of materials;—causes and prevention techniques. Reinhold. 1954. 835 p.
22. Clason, W. E. Elsivier's dictionary of television, radar and antennas. Elsivier. 1955. 760 p.

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25. Applied Scientific Research. Vol. IV. London. Martins and Nijhoff. 1954. 464 p.

26. Martin, Thomas L. Electronic circuits. New York. Prentice Hall. 1955. 707 p.

27. Martin, L., *ed.* and others. Advances in electronics and electron physics. Academic Press. 1952. 362 p.

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29. United States. A.E.C. Chemical processing equipment. New York. McGraw Hill. 1955. 302 p.

30. United States. A.E.C. Research Reactors. New York. McGraw Hill. 1955. 442 p.

31. United States. A.E.C. Reactor Handbook. (Physics) New York. McGraw Hill. 1955, 750 p.

32. Reactor Handbook. (Materials) New York. McGraw Hill. 1955. 610 p.

33. Slaymaker, R. R. Bearing Lubrication Analysis. New York. Wiley. 1955. 108 p.

34. Le Grand, Rupert, *ed.* and others. The New American Machinists' Handbook. New York. McGraw Hill. 1955.

35. American Society of Tool Engineers. Die design handbook. New York. McGraw Hill. 1954.

36. Kurty, Edwin B. The lineman's handbook. New York. McGraw Hill. 1955.

37. Locke, Arthur S. Guidance. New York. Van Nostrand. 1955. 729 p.

38. Miner, Douglas F., and Seastone, John B. *ed.* Handbook of engineering materials. New York. Wiley. 1955.

39. Scort, T.R , Transiter and other crystal valves. Macdonald and Evans Ltd. 1955. 258 p.

40. Mentzer, J. R. Scattering and diffraction of radio waves. London. Pergamon Press. 1955. 134 p.

41. Carr, T.H., Electric Power Stations. London. Chapman. 1955. 832 p.

42. Neetson, P.A. Vacuum Valves in Pulse Techniques. Philips Tech. Lib. 1955. 170 p.

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44. Cock, N. M., and Markus, J., Electronics Dictionary. New York. McGraw Hill. 1945. 433 p.

45. Walkenburg, M.E. Van. Net work analysis. N. Jersey. Prentice Hall. 1955. 440 p.

46. Lin, C.C., The theory of Hydrodynamic Stability. Camb. Univ. Press. 1955. 155 p.

47. Schultz, M.A., Control of nuclear reactors and power plants. New York. McGraw Hill. 1955. 313 p.

STANDING COMMITTEE ON COMBUSTION SYMPOSIA

48. Fifth Symposium (International) on combustion. In engines and combustion kinetics. New York. Reinhold. 1955. 802 p.
49. LIPTROT, Capt., R.N., and WOOD, J.D. Rotorcraft. London. Butterworth. 1955. 161 plus 11 p.
50. GABRIOLLI, G. *ed* and others. Selected papers in Engineering Mechanics. London. Butterworth. 1955. 186 p.
51. GOLDING, E.W. The generation of electricity by wind power. London. E. & F. Spon Ltd. 1955. 318 p.
52. SHIH-I-PAI. Fluid dynamics of jets. New York. Van Nostrand. 1954. 227 p.

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1. COMER, C.L. Radio isotopes in biology and agriculture. New York. McGraw Hill. 1955. 481 p.
2. BLANCK, Fred C., Handbook of food and agriculture. New York. Reinhold. 1955. 1039 p.
3. PEARSON, R.S.; and BROWN, H.P. Commercial timbers of India, Vol. I, Govt. of India Pub. 1932. 548 p.
4. PEARSON, R.S., and BROWN, H.P. Commercial timbers of India, Vol. II. Govt. of India Pub. 1932. 1150 p.
5. VAN ROYEN, William. The Agricultural Resources of the World. New York. Prentice Hall 1954. 258 p.
6. BLATTER, Ethelbert and others. Some beautiful Indian trees. Bombay Natural History Society. 1954. 557 p.

65. COMMERCIAL SCIENCES

1. MCCLORSKY, J F., and Trefethen, F.N., Operations research for management. John. Hopkins Univ. Press. 1954. 409 p.

66. CHEMICAL TECHNOLOGY

1. PARADINE, C.G., and RIVETZ, B.P.H. Statistics for technologists. Van Nostrand. 1953. 288 p.
2. EDITORS OF INDUSTRIAL AND ENGINEERING CHEMISTRY. Modern Chemical Processes Vol. I. Reinhold. 1950. 222 p.
3. EDITORS OF INDUSTRIAL AND ENGINEERING CHEMISTRY. Modern Chemical Processes Vol. II. Reinhold. 1952. 292 p.
4. EDITOR OF INDUSTRIAL AND ENGINEERING CHEMISTRY. Modern Chemical Processes. Vol. III. Reinhold Pub. Co. 1952. 276 p.
5. Applied Scientific Research. Vol. IV. Nijhoff. 1954. 464 p.
6. UNITED STATES A.E.C. Chemical Processing and Equipment New York. McGraw Hill. 1955. 302 p.
7. COUSIN, J.M., and Richardson, J.F. Chemical Engineering. Akademic Verlag. 1955. 297 p.
8. STRACHEN, I.F. Petroleum refinery engineer's handbook. E. & F. Spon. Ltd. 1955. 168 p.

9. Spiers. H. M. *ed.* Technical data on fuel. British National Committee on World Power Conference. 1955. 517 p.

10. Daubert, B.F. *ed.* Fats, oils detergents year book, 1954. Interscience. 1954. 1151 p.

669. Metallurgy

1. Lustman, Benjamin and Kerze Jr., F.H. *ed.* The metallurgy of Zirconium. National nuclear energy Srs. 1954. 958 p.

678. Plastics

1. British Plastics Convention. Plastics Prgoess. London. Ilife & Sons. 1955. 432 p.

681.2. Instruments

1. Draper, Charles S, and other.s. Instrument Engneering. Vol. III (1) Measurement Systems. Oxford 1955. 761 p.

70. Fibres

1. Harris, M., and Mark, H. *ed.* Natural and synth etic fibres year book 1954. Interscience. 1954. 958 p.

2. Meredith, R. The mechanical properties of textile fibres. Amsterdam. N. Holland Pub. Co. 1956. 333 p.

APPENDIX VIII

List of Journals received in the Library during 1955-56.

1. Abhandlungen der Deutschen Akademie der Wissenschaften zu Berlin. Berlin
2. Abhandlungen des Hessichen Landesamtes fur Bodenforschung, Wiesbaden.
3. Acta Biologica, Academiæ Scientiarum Hungaricæ, Budapest.
4. Acta Botanica Fennica, Helsinky.
5. Acta Chimica, Academiæ Scientiarum Hungaricæ, Budapest.
6. Acta Geologica Polonica, Museum Ziemi, Warsaw.
7. Acta Mathematica, Academiæ Scientiarum Hungaricæ, Budapest.
8. Acta Metallurgica, Toronto, Canada.
9. Acta Physica, Academiæ Scientiarum Hungaricæ.
10. Acta Physiologica Academiæ Scientiarum Hungaricæ.
11. Acta Universities Lundensis (Lunds Universitets Arsskrift) Nova Series.
12. Acta Zoologica Fennica, Helsingforsæ.
13. Agra University Journal of Research.
14. Agrokemia es Talajtan, Budapest.
15. Akademiai Ertesito, Budapest.
16. American Museum Noviatates, New York.
17. Annales Bogoriensis, Bogor.
18. Annales Instituti Geologici Publici Hungaricae, Budapest.
19. Annals of Biochemistry and Experimental Medicine, Calcutta.
20. Annals of Missouri Botanic Gardens, St. Louis, Missouri.
21. Annals of New York Academy of Sciences, New York.
22. Annals of South African Museum, Cape Town.
23. Annals of Tropical Medicine and Parasitology, Liverpool.
24. Archives des Sciences, Geneve.
25. Archives Internationales d' Histoire des Sciences, Paris.
26. Archiwum Mechaniki Stosownej, Warsaw.
27. Army Medical Corps Journal, Poona.
28. Atti della Societa Italiana di Scienze Naturalie de Museo Civico, in Milano, Milan.
29. Australian Journal of Experimental Biology and Medical Science, Adelaide.
30. Australian Journal of Marine and Fresh Water Research, Melbourne.
31. Beaufortia, Amsterdam.
32. Berichte der Physikalisch Medizinischen Gesellschaft zu Wurzburg.
33. Biological Abstracts, Philadelpia.
34. Biological Bulletin, Woods Hole.
35. Boletin del Centro de Documentacion Cientifica y Tecnica, Mexico.
36. Boletin do Museu Nacional Rio de Janeiro, Series Anthropologia.
37. Boletin do Museu Nacional Rio de Janeiro, Series Geologica.
38. Boletin do Museu Nacional Rio de Janeiro, Series Zoologica.
39. Botanical Magazine, Tokyo.
40. Bulletin de l' Academic Polonaise des Sciences, Class Troisieme, Warsaw.
41. Bulletin de l' Academic Polonaise des Sciences, Class Quatrieme, Warsaw.
42. Bulletin de l' Institut National Genevois.
43. Bulletin de l' Institute Royale des Sciences Naturalles de Belgique, Bruxelles.
44. Bulletin de la Societe Royale des Sciences de Liege.
45. Bulletin de la Societe Vaudoise des Sciences Naturalles, Lausanne.
46. Bulletin de l' Institut du Desert d' Egypte, Heliopolis.

47. Bulletin (International) de l' Academic Polonaise des Sciences (et des Letters) Cracovie.
48. Bulletin Mensuel de l' Observatoire Metereologique de l' Universite d' Uppsala.
49. Bulletin of the American Museum of Natural History, Woods Hole.
50. Bulletin of the Atomic Scientists, Chicago.
51. Bulletin of the Auckland Institute and Museum, Auckland.
52. Bulletin of the British Non-Ferrous Metals Research Association, London.
53. Bulletin of the Calcutta Mathematical Society, Calcutta.
54. Bulletin of the Calcutta School of Tropical Medicine, Calcutta.
55. Bulletin of the Central Electrochemical Research Institute, Mysore.
56. Bulletin of the Central Food Technological Research Institute, Mysore.
57. Bulletin of the Central Leather Research Institute, Madras.
58. Bulletin of the Central Research Institute, Trivandrum.
Series A. (Physical Sciences)
59. Bulletin of the Central Research Institute, Trivandrum.
Series C. (Biological Sciences)
60. Bulletin of the Chicago Academy of Sciences. Chicago.
61. Bulletin of the Electro-technical Laboratory
62. Bulletin of the Geological Mining and Metallurgical Society of India, Calcutta.
63. Bulletins of the Geological Survey of India, Calcutta.
Series A. (Economic; Geology)
64. Bulletins of the Geological Survey of India, Calcutta.
Series B. (Engineering Geology and Ground Water).
65. Bulletin of the Institute of Nuclear Sciences "Boris Kidrich", Belgrade.
66. Bulletin of the Madras Government Museum, Madras.
67. Bulletin of the Mysore Geologist's Association, Bangalore.
68. Bulletin of the National Geographical Society of Banaras.
69. Bulletin of the National Museum of Ceylon.
70. Bulletin of the National Science Museum, Tokyo.
71. Bulletin of the Research Council of Israel, Jerusalem.
72. Bulletin of the Scripps Institution of Oceanography of the University of California, La Jolla, California.
73. Bulletin—Organization for Scientific Research, Indonesia, Djakarta.
74. Bulletin of Central Glass and Ceramics Research Institute.
75. Bulletin—Calcutta Statistical Association, Calcutta.
76. Bulletin—California Agricultural Experiment Station.
77. Circular—California Agricultural Experiment Station.
78. Calcutta Medical Journal, Calcutta.
79. Chalmers Tekniska Hogskolas Handlingar, Gothenburg, Sweden.
80. Chemical Abstracts, Easten.
81. Chemical Reviews, Baltimore.
82. Chicago Academy of Sciences. Natural History Miscellanea, Chicago.
83. Chicago Academy of Sciences. Special Publications.
84. Climatological data of U.S. Department of Commerce, Weather Bureau, Washington.
85. Collected Papers from the Faculty of Science, Osaka University, Osaka, Series B.
86. Collected Papers from the Faculty of Science, Osaka University, Osaka, Series C. (Chemistry & Biology) Osaka.
87. Comptes Rendus hebdomedaires des seances de l' Academie des Sciences, Paris.
88. Comptes Rendus Mensuels des seances de la classe des Sciences Mathematique et Naturelles, (Academie Polonaise des Sciences et des Letters), Cracow.
89. Contributions from the Dominion Observatory, Ottawa.

90. Contributions from the U.S. National Herbarium, Washington.
91. Cornell University Agricultural Experiment Station, Ithaca. Pulletin.
92. Cornell University Agricultural Experiment Station, Memoirs.
93. C.S.I.R. News, New Delhi.
94. Current Science, Bangalore
95. Electrotehnisky Vestnik, Belgrade.
96. Endeavour London
97. Fieldiana, Geology, Chicago.
98. Fieldiana, Zoology, Chicago.
99. F R.I. News, Jealgora.
100. French Economic & Technical Bulletin, New Delhi.
101. Fundamenta Mathematicæ, Warsaw.
102. Ganita, Lucknow.
103. Geophysical Memoirs Meteorological Office, London.
104. Glasnik Matematicko Fizicki Astronomski, Zagreb.
105. Grosswetterlagen Mittel Europas, Bad Kissengen.
106. Half Yearly Journal of the Mysore University, Section B.
107. Harvard College Observatory, Cambridge, Mass. Annals of :
108. Harvard College Observatory, Cambridge, Bulletins.
109. Harvard College Observatory, Cambrige, Harvard Reprints.
110. Harvard College Observatory, Cambridge, Reprints, Series II.
111. Harvard College Observatory, Cambridge, Quarterly Reports.
112. Hilgardia, Berkeley.
113. Indian Central Cotton Committee, Technological Laboratory. Technological Bulletin Series A. Bombay.
114. Indian Central Jute Committee, Calcutta Agricultural Research Memoir.
115. Indian Central Cotton Growing Review, Bombay.
116. Indian Farming, Delhi.
117. Indian Forest Bulletin, Dehra Dun.
118. Indian Forest Leaflets, Dehra Dun.
119. Indian Forest Records, Dehra Dun.
120. Indian Journal of Agricultural Science, New Delhi.
121. Indian Journal of Dairy Science, New Delhi.
122. Indian Journal of Entomology, New Delhi.
123. Indian Journal of Genetics and Plant Breeding, New Delhi.
124. Indian Journal of Helminthology, Lucknow.
125. Indian Journal of Horticulture, New Delhi.
126. Indian Journal of Malariology, Calcutta.
127. Indian Journal of Medical Research, Calcutta.
128. Indian Journal of Meteorology and Geophysics, Delhi.
129. Indian Journal of Pharmacy, Bombay.
130. Indian Journal of Physics, Calcutta.
131. Indian Journal of Physiology and Allied Sciences, Calcutta.
132. Indian Journal of Power and River Valley Development, Calcutta.
133. Indian Journal of Psychology, Calcutta.
134. Indian Journal of Veterinary Science and Animal Husbandry, Delhi.
135. Indian Medical Gazette, Calcutta.
136. Indian Medical Research Memoirs, Delhi.
137. Indian Minerals, Calcutta.
138. Indian Mining Journal, Calcutta.
139. Indian Phytopathology, Delhi.
140. Indian Standard, Delhi.
141. Insdoc List, New Delhi.
142. I.S.I. Bulletin, Delhi.

143. Indo-Pacific Fisheries Council, Bangkok. Proceedings of.
144. Industrial & News Edition of the Journal of the Indian Chemical Society, Calcutta.
145. International Medical Abstracts and Reviews, Calcutta.
146. International Scientific Radio Union; Brussels ;—Bulletins of :--
147. Japanese Journal of Zoology, Tokyo.
148. Journal and Proceedings of the Institute of Chemists (India) Calcutta.
149. Journal and Proceedings of the Royal Society of New South Wales, Sydney.
150. Journal of Chemical Physics, Lancaster.
151. Journal of Research of the National Bureau of Standards, Washington.
152. Journal of Science of the Hiroshima University, Series A. (Mathematics, Physics, Chemistry).
153. Journal of Scientific & Industrial Research, New Delhi. Section A. General.
154. Journal of Scientific & Industrial Research, New Delhi. B and C Sections.
155. Journal of Scientific Research of the Banaras Hindu University, Banaras.
156. Journal of Scientific Research in Indonesia, Djakarta.
157. Journal of Soil and Water Conservation in India, Hazari Bagh.
158. Journal of the American Medical Association, Chicago.
159. Journal of the Anthropological Society of Bombay, Bombay.
160. Journal of the Elisha Mitchell Scientific Society, N. Carolina University Press.
161. Journal of the Faculty of Science. Hokkaido University, Sapporo, Japan, Section Zoology.
162. Journal of the Franklin Institute Philadelphia.
163. Journal of the Indian Botanical Society, Bangalore.
164. Journal of the Indian Chemical Society, Calcutta.
165. Journal of the Indian Institute of Science, Bangalore.
166 Journal of the Indian Mathematical Society, Madras
167. Journal of the Indian Society of Agricultural Statistics, New Delhi.
168. Journal of the Indian Society of Soil Science, New Delhi.
169 Journal of the Institute of Fuel, London.
170. Journal of the Institute of Polytechnics, Osaka University, Osaka, Series C. Chemistry.
171. Journal of the Institute of Polytechnics, Osaka University, Series E. Engineering.
172. Journal of the Institute of Polytechnics, Osaka University, Series A. Mathematics.
173. Journal of the Institution of Engineers, Calcutta.
174. Journal of the Madras Institute of Technology, Madras.
175. Journal of the Optical Society of America, Pennsylvania.
176. Journal of the Science Club, Calcutta.
177. Journal of the Scientific Research Institute, Tokyo.
178. Journal of the Washington Academy of Sciences, Baltimore.
179. Journal of the Textile Institute, Manchester. Proceedings and Abstracts of :
180. Journal of the Textile Institute Manchester. Transactions.
181. Journal of the Zoological Society of India, Calcutta.
182. Kheti, Delhi.
183. Kitasato Archives of Experimental Medicine. Tokyo.
184. Kong Danske Videnskabernes Selskab. Copenhagen. Matematik-fysiske Meddelelser
185. Kong. Danske Videnskabernes Selskab. Copenhagen. Biologiske Meddelelser.
186. Kong. Danske Videnskabernes Selskab. Copenhagen. Biological Skrifter.
187. Koninklijke Nederlandse Akademie van Watenschappen, Amsterdam. Proceedings Series A. Mathematical Series.

188. Proceedings Series B. Physical Series.
189. Proceedings Series C. Biological and Medical Series.
190. Kung. Svenska Vetenskapsakadamiens Stockholm. Handlingar. Fjarde. Series.
191. La Cellule, Louvain.
192. List of Scientific Papers published in the Middle East, Cairo.
193. Mathematical Journal of Okayama University, Okayama.
194. Mathematica Scandinavica, Copenhagen.
195. Mathematical Reviews, Lancaster.
196. Mathematics Magazine, California.
197. Mathematics Students, Madras.
198. Mathematics Teacher, Washington.
199. Matematisk Tidsskrift, Copenhagen.
200. Memoirs of the Connecticut Academy of Arts and Sciences.
201. Memoirs of the Entomological Society of India ; New Delhi.
202. Memoirs and Proceedings of the Manchester Literary and Philosophical, Society, Manchester.
203. Memoirs of the College of Agriculture, Kyoto University, Kyoto, Japan. Chemical Series.
204. Memoirs of the Faculty of Engineering, Kyushu University, Fukuoka, Japan.
205. Memoirs of the Geological Survey of India, Calcutta.
206. Memoirs of the Indian Meteorological Department, Delhi.
207. Memoirs of the Queensland Museum
208. Mitteilungen des Naturwissenschaftlichen Vereins fur Steiermark, Graz.
209. Nagoya Mathematical Journal Japan.
210. Nature, London.
211. News Report, National Academy of Sciences and Natural Research Council, Washington.
212. New Zealand Journal of Science and Technology, Wellington. Section A. (Agricultural Research)
213. New Zealand Journal of Science and Technology, Wellington. Section B. (General Research).
214. Notes and Records of the Royal Society of London.
215. Notes of the Royal Botanic Gardens, Edinburgh.
216. Notizblatt des Hessischen Landesamtes fur Bodenforschung zu Wiesbaden.
217. Notulæ Nature of the Academy of Natural Sciences of Philadelphia.
218. Nuclear Science Abstracts, Oak Ridge.
219. Nucleonics, New York.
220. Occasional Papers of the California Academy of Sciences, San Fransico.
221. Osaka Mathematical Journal, Osaka.
222. Pacific Journal of Mathematics, Los Angeles.
223. Pacific Science, Hawaii.
224. Pakistan Journal of Science, Lanore.
225. Pakistan Journal of Scientific Research, Sections B and C.
226. Palæobotanist, Lucknow.
227. Papers and Proceedings of the Royal Society of Tasmania.
228. Phillippines Journal of Science, Manila.
229. Philosophical Transactions of the Royal Soclety of London. Series A.
230. Philosophical Transactions of the Royal Society of London. Series B.
231. Physical Review, New York.
232. Physics Abstracts, London.
233. Phytomorphology, Delhi.
234. Proceedings of the Academy of Natural Sciences of Philadelphia.
235. Proceedings of the American Academy of Arts and Sciences, Boston.

236. Proceedings of the California Academy of Sciences, San Francisco.
237. Proceedings of the Cambridge Philosophical Society, London.
238. Proceedings of the Indian Academy of Sciences Bangalore, Section A.
239. Proceedings of the Indian Academy of Sciences, Bangalore, Section B.
240. Proceedings of the National Academy of Sciences, Allahabad. Section A.
241. Proceedings of the National Academy of Sciences, Allahabad, Section B.
242. Proceedings of the National Academy of Sciences of the U.S.A , Washington.
243. Proceedings of the Royal Institution of Great Britain.
244. Proceedings of the Royal Irish Academy, Dublin, Section A.
245. Proceedings of the Royal Irish Academy, Dublin, Seetion B.
246. Proceedings of the Royal Society, London, Series A.
247. Proceedings of the Royal Society, London, Series B.
248. Proceedings of the Royal Society of Edinburgh, Section A, (Mathematical and Physical Sciences).
249. Proceedings of the Royal Society of Edinburgh, Section B, (Biology).
250. Proceedings of the Royal Society of Victoria, Melbourne.
251. Proceedings of the U.S. National Museum (Smithsonian Institution), Washington.
252. Proceedings of the Zoological Society, Calcutta.
253. Progress of Theoretical Physics, Kyoto, Japan.
254. Psyche, A Journal of entomology, Cambridge, Mass.
255. Public Health Reports, Washington.
256. Publicacoes do Instituto de Botanica, Dr. Goncalo Sampio da Faculdad de Ciencias da Universidade de Porto, Porto. Series II
257. Publications de la Faculty des Sciences de I' Universite Masaryk, Praha.
258. Publications de l' Institute du Desert, Heliopolis.
259. Publications de l' Institute Mathematique, Belgrade.
260. Publications of the Astronomical Society of Japan, Tokyo.
261. Publications of the Dominion Observatory, Ottawa.
262. Publicazioni della Stazione Zoologica, Napoli
263. Purdue University Agricultural Evperiment Station. Lafayette, Circular.
264. Purdue University Agricultural Experiment Station. Lafayette, (Station Bulletin).
265. Quarterly Journal of the Geological, Minning & Metallurgical Society of India, Calcutta.
266. Quarterly of Applied Mathematics, Providence.
267. Quarterly Progress Report, Research Laboratory of Electronics, M.I.T., Cambridge; Mass.
268. Quarterly Progress Report, Solid State & Molecular Theory Group, M.I.T., Cambridge, Mass.
269. Records of the Australian Museum, Sydney.
270. Records of the Botanical Survey of India, Calcutta.
271. Records of the Indian Museum, Calcutta.
272. Records of the Geological Survey of India, Calcutta.
273. Reinwardtia, Bogor.
274. Report of the Department of Mines, Western Australia.
275. Research, London.
276. Research Bulletin of the East Punjab University, Hoshiarpur.
277. Revista Cubana de Laboratorio Clinico, Cubana.
278. Sarawak Museum Journal, Kuching, Sarawak.
279. Schriften des Naturwissenschaftlichen vereins fur Schleswig-Holstein, Kiel.
280. Science, Lancaster.
281. Science and Culture, Calcutta.
282 Science Museum Library, London. Monthly list of accessions to the Library.

283. Science Museum Library, London. Bibliographical Series.
284. Science Progress, London.
285. Scientific Papers of the College of General Education, University of Tokyo.
286. Scripta Mathematica, New York
287. Seismological Bulletin, Meteorological Department, Government of India, New Delhi.
288. Sitzungsberichte, Abt. I. Biclogie, Mineralogi etc. Wien.
289. Sitzungsberichte der deutschen Academic der Wissenschaften zu Berlin. Class—Mathematics.
290. Sitzungsberichte der deutschen Academic der Wissenschaften zu Berlin. Class II.
291. Societas Scientiarum Fennica, Helsinki. Commentationes Biologicæ.
292. Societas Scientiarum Fennica, Helsinki. Commentationes Physico-Mathematicæ.
293. Statistical Newsletter.
294. Sudan Notes and Records, Khartoum.
295. Summaries of Reports of the Electrotechnical Laboratory, Tokyo.
296. Suomalaisen Tiedakatemian Toimituksia, Helsinki. Series A. Biologica.
297. Suomalaisen Tiedakatemian Toimituksia, Helsinki. Series B. Math.—Physics.
298. Technical News Bulletin (NBS.), Washington.
299. Technical Report, Solid, State and Molecular Theory Group, M. I. T., Cambridge, Mass.
300. Technical Report, Research Laboratory of Electronics, Cambridge.
301. Technological Reports of the Osaka University, Japan.
302. Tensor, Sapporo, Japan.
303. Trabalhos do Instituto, Botanica, Dr. Goncalo Sampaio, Porto.
304. Transactions and Proceedings of the Botanical Society of Edinburgh.
305. Transactions and Proceedings of the Royal Society of New Zealand.
306 Transactions of the American Mathematical Society, Providence.
307. Transactions of the Connecticut Academy of Arts & Sciences, New Heaven.
308. Transactions of the Indian Institute of Chemical Engineers, Calcutta.
309. Transactions of the Mining, Geological and Metallurgical Institute of India, Colcutta.
310. Transactions of the New York Academy of Sciences, New York.
311. Transactions of the Royal Canadian Institute, Toronto.
312 Transactions of the Royal Society of Canada, Section III, Chemistry, Mathematics and Physical Sciences.
313. Transactions of the Royal Society of Canada, Section V Biological Sciences.
314. Transactions of the Royal Society of New Zealand, Wellington.
315. Transactions of the Royal Society of Suth Africa.
316. Transactions of the San Diege Sociesy of Natural History, San Diege.
317. Transactions of the Wisconsin Academy of Scienees, Madison.
318 Treubia, Bagor.
319. Tropical Agriculture, Trinidad.
320. UNESCO. Bullettin for Libraries. Paris.
321. Union Geodesique et Geophysique. International Newsletter.
322. Universities Quarterly, London.
323. Utah Academy of Sciences, Arts and Letters, Salt Lake City. Proceedings.
324. U. S. Department of Commerce, Weather Bureau. Technical Paper.
325. United States National Museum, Washington. Bulletin.
326. University of California, Agricultural Experiment Station. Bulletins.
327. University of California, Agricultural Experiment Station. Circulars.
328. University of California, Berkely. Publications in Botany.
329. Verhandlungen der Geologischen Bundesanstalt, Wien.

330. Verhandlungen der Naturforschenden Geselleschaft in Basel.
331. Verhandlungen der Zoologisch-Botanischen Gesel'schaft in Wien.
332. Vijnan Karmee, Delhi.
333. Vigyan Pragati (Hindi), Delhi.
334. Witterungsberichte.
335. W.M.O. (World Meteorological Organization), Geneva. Bulletin.
336. Zeitschrift fur Naturforschung, Tubingen.

Russian Journals: Titles translated into English

337. Astronomicheskii zhurnal (Astronomical Journal).
338. Biokhemia (Biochemistry).
339. Doklady Akademii Nauk, SSSR.
340. Izvestiia Akademii Nauk USSR: Seriia matematicheskaia. (Bulletin of the Academy of Sciences of the USSR, Mathematical Series).
341. Izvestiia Akademii Nauk SSSR: Seria biologieheskaia (Bulltin of the Academy of Sciences of the USSR, Biological Series).
342. Matematicheskii sbornik (Mathematical Symposium).
343. Mikrobiologia (Microbiology).
344. Priroda (Nature).
345. Referativnyi zhurnal (Reference Journal). : Mathematical Series.
346. ,, ,, ,, ,, : Physical Series.
347. ,, ,, ,, ,, ; Chemical Series.
348. ,, ,, ,, ,, : Astronomical Series.
349. ,, ,, ,, ,, : Mechanical Series.
350. Uspekhi sovremennoi biologii (Achievements of Contemporary Biology).
351. Vestnik Akademii Nauk SSSR.
352. Zoologicheskii zhurnal (Zoological Journal).
353. Zhurnal obschei biologii (Journal of General Blology).

APPENDIX IX

List of Schemes of Biological Research recommended by the National Institute

Schemes recommmended by NIS	*Action taken by the Biological Research Committee of the CSIR, ICAR and University Grants Commission*
To CSIR	
1 Establishment of a Wing for Entomological Survey of the Himalayas —Prof. M. S. Mani, Head of the Department of Zoology, St. John's College, Agra.	CSIR accepted the sheme in principle as an ad hoc scheme for a period of two years. The Committee recommended that Prof. M. S. Mani be requested to conduct the scheme in collaboration with the Zoological Survey of India.
2. Anatomical and morphological studies of flower in the gramineese— —Dr. V. Puri, Head of the Department of Botany. Meerut College, Meerut.	CSIR approved sanction of the scheme for a period of 3 years and suggested that Dr. Puri may be requested to include in the work studies on the germination of pollen and fertilization. Dr. Puri may also be requested to resubmit his scheme in the CSIR proforma.
3. Anatomy and morphology of the floral receptacle—Dr. V. Puri, Head of the Department of. Botany, Meerut College, Meerut.	CSIR did not approve the scheme for sanction as it was vague and work in the subject has already been done.
4. Scheme for the establishment of a systematic mycology unit of wood-destroying fungi polypores—Dr. S.R. Bose, R. G. Kar Medical College, Calcutta.	CSIR expressed its willingness to give every reasonable assistance but requested the sponsor to resubmit the scheme in the CSIR proforma.
To Ministry of N.R.&S.R.	
5. 'Cytogenetics and phylogeny of Mango and Banana—Maharashtra Association for the Cultivation of Science, Poona.	CSIR recommended that the scheme be referred to the Indian Council of Agricultural Research to elucidate the following points: (1) Why the scheme was abandoned by the ICAR ? (2) Whether they can renew the scheme in future ?

6. *Cytogenetical studies on animal chromosomes—Dr. S. P. Ray Chaudhuri, Lecturer in Zoology, Calcutta University.	The scheme was accepted in principle subject to clarifications (technical and financial). Dr. Seshachar undertook to discuss the scheme further with Dr. Ray Chaudhuri when he went to Calcutta and submit a report on it for consideration by the CSIR.
7. *Induced mutagenesis in plants with special reference to Paddy (Oryza Sativa)—Dr. K. T. Jacob, Head of the Department of Botany, Bose Research Institute, Calcutta,	CSIR discussed the scheme and approved it in principle. It recommended that (i) the scheme may be referred also to the Central Rice Research Institute for opinion ; (ii) that details relating to the additional facilities required for the scheme and the financial implications involved as indicated in the scheme may be referred. (iii) the scheme may be limited to 3 years in the first instance.
8. *Basic studies in Animal Genetics—Dr. V. R. Khanolkar, Indian Cancer Research Centre, Bombay.	CSIR approved the scheme in principle but considered that since money for such work was being drawn from various sources, a co-ordinating scheme should be put up especially in regard to its financial implications. It was recommended that the scheme be postponed for further and fuller consideration after discussion with Dr. V. R. Khanolkar.
9. Cytogenetical investigation on the Chlorophytum—University College, Trivandrum.	CSIR approved the scheme subject to the financial adjustments.
10. Cyto-chemical investigations on ciliate protozoa, at the Central College, Bangalore.	CSIR approved the scheme for 3 years subject to financial adjustments.
11. Cytological studies in Maize and Sorghum—Andhra University, Waltair.	CSIR approved the programme but recommended it for consideration by the Indian Council of Agricultural Research as the subject is more in their line.
12. Study of the Inheritance of characters in the Indian house fly Musca domestica Nabulo Fabr—Maharashtra Association for the Cultivation of Science, Poona.	CSIR recommended that further enquiries may be made (i) regarding the name and qualifications of the worker who would undertake this research, and (ii) whether they were still interested in this scheme since Dr. Deoras was no longer with them.

13. Laboratory for fundamental research on Plant Hormones—Indian Agricultural Research Institute, New Delhi.	CSIR approved it in principle and recommended that the Indian Agricultural Research Institute be requested in the first instance to try to obtain the necessary funds from the Ministry of Food and Agriculture.
14. Research in Phylogeny and comparative Cytogenetics of some Indian Crop Plants in relation to their allied wild species—Maharashtra Association forthe Cultivation of Science, Poona.	Information not yet received.
15. Studies in the morphology, embryology and cytology of the Pandales —Dr. I. Banerji, University of Calcutta.	CSIR approved the scheme.
16. Comparative biochemical studies on the differentiated and non-differentiated (gall tumour) growth in higher plants—Bose Research Institute, Calcutta.	Information not yet received.
17. Genetic investigations in the Pusa pedigree Sahiwal herd—Indian Agricultural Research Institute, New Delhi.	CSIR referred the scheme to I.C.A.R.
18. Establishment of Human Parasitological Laboratory– School of Tropical Medicine, Calcutta.	CSIR did not recommend the scheme.
19. Scheme for the establishment of a fresh water biological station in India (A 'Wing') at Mettur Dam, Madras State.	Late Dr. Hora was dealing with these schemes and it is likely that Government have also forwarded them to CSIR. Inquiries in this connection have been instituted.
20. Scheme for the establishment of a Central Marine Biological Station (A 'Wing') at Bombay.	
21. Fundamental Research in Taxonomy, Physiology and Ecology of Indian Insects at the Zoological Survey of India.	
22. Taxonomy of pathogenic fungi—Indian Agricultural Research Institute, New Delhi.	Information not yet received.

23. *Establishment of a 'Wing' for the development of fundamental research in plant genetics—Indian Agricultural Research Institute, New Delhi.†	
To University Grants Commission	
24. Embryological Researches—Zoology Department, Birla College, Pilani.	University Grants Commission informed that under the existing rules of procedure no grant is sanctioned to affiliated colleges which are being dealt with by the Ministry of Education.
25. Animal Genetics — morphological cytology—studies on living cells under the phase contrast microscope, —Zoology Laboratory, Panjab University, Hoshiarpur.	Informed that they would consider it under the Second Five Year Plan.
To Indian Council of Agricultural Research	
26. A Study of grasses of the Rajputana Desert from an ecological, morphological, embryological, cytological and genetical point of view, Botany Department, Birla College, Pilani.	Information not yet received.
27. Scheme on systematic, bioelectric and biochemical studies of wheat and maize—Vivekananda laboratory, Almora (It was sent to ICAR to consider the enlargement of the work which they were already financing).	Information not yet received.

*Approved and recommended by the Advisory Committee of the Ministry of Natural Resources and Scientific Research for co-ordinating scientific research.

†Approved directly by the Ministry of N.R. &. S.R.

APPENDIX X

Office Staff 1955-56

Assistant Secretary	...	J. L. Sarin
Assistant Editor	...	P. O. Matthai
Asst. Office Superintendent	...	H. Sengupta
Accountant	...	A. R. Bhutani
Stenographer	...	M. R. Sharma
Office Assistant	...	M. S. Nigam
		S. N. Banerjee
Clerk-Typist	...	A. N. Sengupta
Library Assistant	...	Ram Rakha

APPENDIX

NATIONAL INSTITUTE

Balance Sheet as at

LIABILITIES	Rs. a. p.	Rs. a. p.	Rs, a. p.
Sundry Donation and Fellows Funding Account:			
Donations ...	...	36,400 0 6	
Fellows Funding and Compounding Fees as on 31-3-55 ...	20,869 0 0		
Receipts during the year ...	2,044 0 0	22,913 0 0	59,313 0 6
Chandrakala Hora Memorial Medal Endowment Fund:			
Balance as on 31-3-55 ...	...	3,609 11 0	
Interest during the year ...	...	96 1 0	3,705 12 0
General Fund:			
Balance as on 31-3-55 ...	...	83,722 6 5	
Transfer from Government grant Housing Symposium Fund ...	...	6,905 2 3	
Transfer from UNESCO grant for publication of Housing Symposium Bulletin ...	...	2,850 0 0	
Transfer from Income and Expenditure Account ...	...	15 225 3 3	
		1,08,702 11 11	
Less: Printing of Symposium Bulletin No. 4, 5, 6, & 7 ...	22,706 7 3		
,, Grant to Societies ...	750 0 0	23,456 7 3	85,246 4 8
Building Fund:			2,90,000 0 0
Imperial Chemical Industries (India) Research Fellowships Fund:			
Balance as on 31-3-55		4,447 11 9	
Less: Special Grant to R. B. Y. Ramachandra Rao and Sri C. M. S. Dass ...	...	2,077 6 0	
		2,370 5 9	
Add: Transfer from Income and Expenditure Account ...	...	1,159 9 3	3,529 15 0
Temporary Reserve Fund:			
Balance as on 31-3-55 ...	...		83,729 15 9
Transfer from Income and Expenditure Account ...	...		12.075 2 0
Carried over ...			5,37,600 1 11

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OF SCIENCES OF INDIA

31st *March*, 1956

ASSETS

	Rs. a. p.	Rs. a. p.	Rs. a. p.
Building and Equipments :			
Cost as on 31-3-55		2,81,827 13 3	
Additions to Electric Installations ..	...	2,908 15 0	2,84,736 12 3
Furniture :			
Balance as on 31-3-55 ...	...	16,927 8 0	
Additions during the year ...	3,862 0 0		
Add : Part Payment to M/s. Araish against furniture supplied ...	4,000 0 0	7,862 0 0	24,789 8 0
Library Books and Journals :			
Balance as on 31-3-55 ...	...	57,233 5 6	
Additions during the year ...	...	13,850 6 0	71,083 11 6
Advance to Calcutta office :			5,925 14 0
Central P. W. D. for servant's quarters :			6,075 0 0
Sundry Debtors (Dr. P. B. Mathur) :			175 0 0
Advances :			
To Staff and Others ...	...	3,451 15 6	
To Research Fellows ...	...	1,856 13 0	
To Reviews Progress of Science ...	...	450 0 0	5,758 12 6
Subscriptions outstanding :			
Year 1956 ...	...	1,816 0 0	
Year 1955 ...	...	216 0 0	
Carried over ...			3,98,544 10 3

APPENDIX

NATIONAL INSTITUTE

Balance Sheet as at

LIABILITIES	Rs. a. p.	Rs. a. p.	Rs. a. p.
Brought forward			5,37,600 1 11
Popularisation of Scienee Fund : ...	...	...	3,792 15 6
Grant for National Register of Scientific and Technical personnel :			
Balance as on 31-3-55 ...	...		462 10 0
Indian Science Abstracts Fund :			
Balance as on 31-3-55 ...	...	18,179 13 9	
Less : Payment of Reviews ...	...	493 12 0	17.686 1 9
Symposium Fund :			
Balance as on 31-3-55 ...	...	400 10 3	
Less : Expenses on Climate, Environment and Health Symposium ...	...	362 12 0	37 14 3
Government Grant Housing Symposium Fund :			
Balance as on 31-3-55 ...	...	6,905 2 3	
Less : Transfer General Fund ...	...	6,905 2 3	—
UNESCO Grant for Printing Housing Symposium Bulletin ...	...	2,850 0 0	
Less : Transfer General Fund ...	...	2,850 0 0	—
Government Grant "Who is who" :			
Balance as on 31-3-55 ...	...		10,000 0 0
Government grant Symposium on Wind Power and Solar Energy :			
Balance as on 31-3-55 ...	..	5,093 10 9	
Less : Payment during the year ...	...	1,894 5 0	3,199 5 9
Maintenance of Gardens and Lawns Reserve :			
Balance as on 31-3-55 ...	...		800 0 0
Maintenance of Building Reserve :			
Balance as on 31-3-55 ...	...		2,000 0 0
Employees Provident Fund :			
Balance as on 31-3-55 ...	...	20,120 13 0	
Carried over ...			5,75,579 1 2

XI—(*contd.*)

OF SCIENCES OF INDIA

31st *March*, 1956—(*contd*).

ASSETS

	Rs. a. p.	Rs. a. p.	Rs. a. p.
Brought forward			3,98,544 10 3
Year 1954 ...	...	36 0 0	
Prior to 1954 ...	...	12 0 0	2,080 0 0
Meter Security :			25 0 0
Suspense : (Expenditure against lunch).			
Balance as on 31-3-55 ...	...		50 0 0
Investment at cost :			47,189 3 10
4% Loan 1960/70 Face Value ...	...	17,600 0 0	
3% Conversion Loon 1946 face value ... (Includes Securities of the face value of Rs. 3,000/- for Chandrakala Hora Memorial Fund and the balance for Funding Account and Donations).	...	29,000 0 0	
Cash and Bank Balances :			
Fixed Deposits in State Bank of India, Delhi ...	...	41,912 0 0	
3½% 10 years Treasury Bonds ...	...	42,000 0 0	
State Bank of India Saving Bank ...	...	3,575 5 8	
State Bank of India Provident Fund	...	4,864 10 0	
Petty Cash ...	...	134 1 0	
Postage Franking Machine ...	...	71 5 0	
Postage Stamps with Library ...	...	193 11 9	
Current Account with State Bank of India, Delhi ...	...	1,02,893 10 5	1,95,644 11 10
Carried over ...			6,43,533 9 11

APPENDIX

NATIONAL INSTITUTE

Balance Sheet as at

LIABILITIES		Rs. a. p.	Rs. a. p.	Rs. a. p.
Brought forward			20,120 13 0	5,75,579 1 2
Add : Members Contribution	...	2,414 13 6		
,, Institute Contribution	...	2,414 13 6		
,, Interest	...	216 2 0	5,045 13 0	25,166 10 0
Accountant's Security :				
Balance as on 31-3-55	...	...	2,070 0 0	
Add : Interest during the year	...	...	70 0 0	
			2,140 0 0	
Less : Payment of Interest	...	...	70 0 0	2,070 0 0
Suspense at credit :				
Balance as on 31-3-55	...	...		21 15 0
Organic Evolution Symposium Fund :	...	...		644 0 9
Government Grant Symposium High Altitude Research :				
Grant received during the year	...	...	9,000 0 0	
Less : Expenses during the year	...	...	2,681 13 0	6,318 3 0
Contribution by Muslim University Aligarh for Symposium High Altitude Research :		...		750 0 0
Retention Money Research Fellows :		...		16,310 0 0
Dr. S. S. Bhatnagar's Memorial Fund :		...		5,110 4 0
Sundry Creditors :			1,048 11 0	
Security for Books		...	10 9 0	
Stipend Payable Research Fellows		...	3,021 12 0	
Subscriptions received in advance		...	90 9 0	
Income Tax Payable		...	130 0 0	
Provision for Payment :				
Mr. G. B. Mhatre	...	...	4,200 0 0	
Liability for Ground Rent	...	...	2,812 8 0	
Earnest Money Contractor	...	...	250 0 0	11,563 8 0
			Total Rs.	6,43,533 9 11

1-B, Old Post Office Street,
Calcutta, the 20th day of July 1956.

XI—(*contd*).

OF SCIENCES OF INDIA

31*st March*, 1956—(*contd*).

ASSETS

	Rs. a. p.
Brought forward	6,43,533 9 11
Total Rs. ...	6,43,533 9 11

N.B.—No depreciation has been provided on assets.

AUDITORS' REPORT

We report that we have examined the above Balance Sheet of the National Institute of Sciences of India as at 31st March. 1956, and also the relevant Income and Expenditure Account of the Institute for the year ended that date. In our opinion, the Balance Sheet shows a true and correct view of the state of affairs of the Institute according to the best of our information and explanations given to us and as shown by the books of the Institute.

Sd/ LODHA & CO.
Chartered Accountants.

APPENDIX

NATIONAL INSTITUTE

Income and Expenditure Account

1. Government Grant

EXPENDITURE		Rs. a. p	Rs. a. p.
To *Expenditure out of Government grant :*			
Staff Salaries	...	51,875 13 9	
Provident Fund contribution	...	2,414 13 6	54,290 11 3
,, *N.I.S. Research Fellowships :*			
Stipend Seniors	...	28,983 12 0	
Stipend Juniors	...	66,426 11 0	
Contingencies Seniors	...	2,425 13 3	
Contingencies Juniors	...	3,423 3 9	
Advertisement Research Fellowships		1,166 8 0	1,02,426 0 0
,, Travelling Expenses for Meetings	...		35,920 14 0
,, Publication Institute (Proceedings)	...		21,033 3 9
,, Publication Grant other Societies	...		16,900 0 0
,, Library expenses (Rs. 13,850-6-0 spent on books and journals is taken as an asset in the Balance Sheet)	...		257 3 0
,, Rent of land	...		5,625 0 0
,, House Tax	...		5,625 6 0
,, Maintenance of Buildings	...		2,680 0 0
,, Printing and Stationery	...		2,665 0 0
,, Payment Co-operating Academies and Subscription I.S.I.	...		274 0 0
,, Rent, Rate and Taxes	...		725 0 0
,, Electricity and Water charges	...		590 6 0
,, Audit Fee	...		250 0 0
,, Postage, Telegram and Telephones	...		3,871 11 9
,, Conveyance	...		133 7 9
,, Subscription written off	...		996 4 0
,, Miscellaneous expenses	...		1,639 1 9
,, Meeting expenses	...		346 7 0
,, Insurance of Building	...		252 10 0
,, Allowance for secretarial assistance	...		840 0 0
,, Bank charges	...		199 6 6
,, Excess of income over expenditure transferred to General Fund	...		15,225 3 3
Total	...		2,72,767 0 0

XII

OF SCIENCES OF INDIA

for the year ended 31st March, 1956

in Aid and General Fund

INCOME

		Rs. a. p.	Rs. a. p.
By Grant from Government of India ...			2,55,000 0 0
,, Membership subscription 1956 received ...			6,316 0 0
,, Membership subscription 1956 receivable			1,816 0 0
,, Grant Universities ...			1,300 0 0
,, Interest on Investments ...			3,226 14 0
,, Sale of :			
Proceedings ...		2,901 5 6	
Bulletins ...		974 13 0	3,876 2 6
,, Sale of Apparatus : Research Fellows :			
N.I.S. Fellows ...		938 9 6	
I.C.I. Fellows ...		28 1 0	966 10 6
,, Miscellaneous Income ...			265 5 0
Total ...			2,72,767 0 0

APPENDIX

NATIONAL INSTITUTE

Income and Expenditure Account

2. Imperial Chemical Industries (India)

EXPENDITURE	Rs. a. p.	Rs. a. p.
To I.C.I. Research Fellowships Stipends (Scheme II) ...		26,884 2 0
,, I.C.I. Research contingencies (Scheme II)		2,201 1 9
,, Excess of income over expenditure transferred to I.C.I. Research Fellowship Fund		1,159 9 3
Total ...		30,244 13 0

3 Imperial Chemical Industries (India)

To Expenditure advertisement Research Fellowships ...		1,124 14 0
,, Excess of income over expenditure transferred to Temporary Reserve Fund ...		12,075 2 0
Total ...		13,200 0 0

1-B, Old Post Office Street,
Calcutta, the 20th day of July, 1956.

XII—(*Contd.*)

OF SCIENCES OF INDIA

for the year ended 31st March, 1956.

Ltd. Research Fellowships.

INCOME

	Rs. a. p.	Rs. a. p.
By I.C.I. Research Fellowships Grant (Scheme II) ...		26,884 4 0
,, I.C.I. Research contingencies (Scheme II)		3,360 9 0
Total ...		30,244 13 0

Ltd. Administration Grant

By Grant Received ...	13,200 0 0
Total ...	13,200 0 0

This is the Income and Expenditure Account referred to in our report of even date.

8d/ LODHA & CO.
Chartered Accountants.

APPENDIX

Budget Estimates for 1956-57 together with

1. Government

RECEIPTS	Revised Estimates 1955-56	Actuals 1955-56	Estimates 1956-57
	Rs.	Rs.	Rs.
Grant-in-aid from the Gvernment of India	2,86,070	2,55,000	5,50,000
Total ...	2,86,070	2,55,000	5,50,000

2. Imperial Chemical Innustries

Stipend ...	30,116	26,884	31,600
Contingencies ...	3,764	3,361	4,200
Administration ...	13,200	13,200	...
Total ...	47,080	43,445	35,800

XIII

Revised Estimates and Actuals for 1955-56

Grant-in-Aid

EXPENDITURE

		Revised Estimates 1955-56	Actuals 1955-56	Estimates 1956-57
		Rs.	Rs.	Rs.
G. 1.	*Staff salaries (including allowances and Provident Fund)* ...	54,770	54,291	65,000
G. 2.	*Travelling* ...	36,580	35,921	50,000
G. 3.	*N.I.S. Research Fellowships* ...	1,13,400	1,02,426	2,30,000
G. 4.	*Library* ...	15,000	14,108	70,000
G. 5.	*Publications* ...			
	(a) Institute ...	34,490	21,033	70,000
	(b) Other Societies ...	16,900	16,900	40,000
G. 6.	*Contingencies*			
	(a) Rent of land ...	5,625	5,625	5,625
	(b) House Tax ...	5,625	5,625	9,000
	(c) Maintenance of Building ...	2,680	2,680	2,600
	(d) Maintenance of Lawns and Gardens	1,000	...	1,000
	(e) Miscellaneous, including postage, printing and stationery, etc. ...	...	...	6,775
		2,86,070	2,58,609	...
			-3,609	
	Total ...	2,86,070	2,55,000	5,50,000

(India) Research Fellowships

1.	*Stipends* ...	30,116	26,884	31,600
2.	*Contengencies* ...	3,764	2,201	4,200
3.	*Administration expenses Transfer Reserve Fund* ...	13,200	1,125	...
			12,075	
		47,080	42,285	35,800
			+1,160	
	Total ...	47,080	43,445	35,800

APPENDIX

Budget Estimates for 1956 57 together with

3. General

RECEIPTS	Revised Estimates 1955-56	Actuals 1955-56	Estimates 1956-57
	Rs.	Rs.	Rs
1. *Subscriptions*			
Annual subscriptions ...	8,400	8,132	8 400
Compounding Fees ...	500	1,595	500
Admission Fees ...	480	448	480
2. *Grants*			
Calcutta University ...	500	1,000	500
Osmania University ...	300	300	300
Interest on Chandrakala Hora Memorial Endowment ...	100	96	100
3. *Sale of Publications*			
Proceedings and Bulletins ...	3,500	3,876	3,500
4. *Miscellaneous Receipts*			
Interest on investments ...	3,370	3,492	3,500
Sale of grass and apparatus ...		967	1,000
5. *Transfer from Funds*			
I. S. A. Fund ...	9,000	493	...
Reserve Fund for symposia Bulletins and Tables ...	27,900	22,706	...
General Fund for furniture on order and Symposia Expenses ...	15,000	8,225	7,138
I. C. I. Research Fellowships Saving Fund ...	4,400	2,077	2,000
Value of Furniture Transfer ...	974	...	
6. Dr. S. S. Bhatnagar's Memorial Fund ...	...	5,186	...
7. Contribution by Muslim University Aligarh for symposium on High Altitude Research ...	...	750	...
Total ...	74,424	59,344	27,418

XIII—(*Contd*).

Revised Estimates and Actuals for 1955-56

Fund

EXPENDITURE

	Revised Estimates 1955-56	Actuals 1955-56	Estimates 1956-57
	Rs.	Rs.	Rs.
1. *Transfer to Funds*			
Funding Account ...	1,080	2,140	1,080
Dr. S. S. Bhatnagar Memorial Fund ...		5,186	
Contribution Muslim University Aligarh		750	
2. *Rent, Rates and Taxes*			
Calcutta Office Rent and Telephone Rental.	680	725	680
3. *Printing and Stationery* ...	2,900	2,665	3,000
4. *Postage Telegrams and Telephone* ...	3,300	3,871	3,500
5. *Payment to Other Institutions*			
Subscription I.S.I. ...	250	250	250
Co-operative Academies ...	84	24	84
6. *Miscellaneous*			
Electric and water charges ...	700	590	700
Advertisement ...			100
Audit fee ...	250	250	250
Conveyance including meetings of local Fellows ...	100	134	750
Bank charges ...	170	199	200
Fire Insurance ...	429	253	500
Allowances for Secretarial Assistance ...	840	840	840
Sundries: Peons uniform and Office Equipment ...	2,200	1,985	1,646
Subscriptions written off ...	...	996	200
7. *Publications*			
Progress of Science in India ...	9,000	493	...
Symposia Bulletin and Tables ...	27,900	22,706	...
Symposia expenses ...		363	...
Furniture on order ...	15,000	7,862	7,138
Special grants ...	4,400	2,077	2,000
	70,257	54,359	22,918
	+4,167	+4,985	+4,500
Total ...	74,424	59,344	27,418

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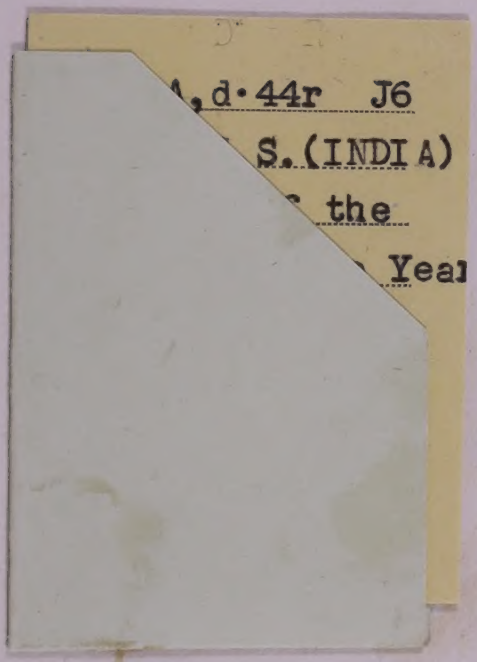
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